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AMERICAN NURSERYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

DECEMBER 15, 1940



Cornus Racemosa

Rootstocks for Dwarfing Apple
Identifying Woody Plants in Winter
Minnesota Association Convention
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AMERICAN NURSERYMAN

F. R. KILNER, Editor

Editorial

MERRY CHRISTMAS!

Though a cloud must shadow the happiness which the year-end holidays bring for most, because of the damage and suffering from war in Europe—impressed personally upon us by the report from Kew gardens in this issue—the nurserymen of this country have good reason for yuletide rejoicing. Even the legal regulations against which some chafe seem petty compared to the economic restrictions of fellow tradesmen in other countries. Instead of curtailment, there has developed in this country increased demand in the past year, particularly for ornamentals to be planted about the great number of new homes being built. The preparedness program of our government is expected to stimulate the demand, through increased employment in industry and consequent larger wage earnings for many individuals. The year ahead is expected to be better than that which is passing.

The improved trade conditions have enabled this magazine to record its most marked progress in the past year, both in a wider circle of subscribers and in a larger income from advertisers, making possible proportionate increase in the extent and scope of the services offered through the reading columns. Besides trade conditions, there have been responsible for this notable gain the interest and help, in a variety of ways, of the many friends this magazine is so fortunate to have made. With appreciation and gratitude, as well as recognition of the fortunate circumstances of citizens and nurserymen of America, the editor and staff wish you all a Merry Christmas and a Happy New Year!

CHURCH GARDENS.

Because of the enthusiasm of a New Jersey woman, a number of churches in her state have been adorned by gardens in the past year or two. Mrs. Garret Smith, Plainfield, N. J., has talked on church gardens two or three times on the Radio Garden Club broadcasts over station

The Mirror of the Trade

WOR and has presented the idea to groups of clergymen.

To the church membership, transforming a bare open corner into a garden may mean much more than beautification. Screened by a hedge of evergreens or tall shrubs, it becomes an inviting spot for church dinners in summer, guild or club gatherings and even a place for garden weddings, a simple altar being created by a half circle of closely set evergreens. In some instances the church garden has become an aid to obtaining revenue.

The idea merits wider dissemination. In most communities churches are of outstanding architectural appearance, but too frequently the planting is neglected and the lawn is even worn bare. Surrounded by an appropriate planting the church may become an influence for aesthetic, as well as spiritual, improvement of the community. It is suggested that there is a real personal value in such gardens if a secluded place is provided for those who seek inspiration within the atmosphere of the church.

In the wider spread of church gardens the nurseryman has an interest. Those values which his plants give to the home grounds have wider scope in the church garden. The nurseryman may even be the forerunner of the idea; he may find a wealthy customer ready to donate a memorial garden to his church, instead of a stained-glass window. At any rate, it is an idea with which he should be acquainted and ready to help into reality.

CANADA CUTS IMPORTS.

Nursery stock was included among the items prohibited importation from the United States into Canada by announcement in the Canadian Parliament December 2. This drastic action by the Canadian government is for the purpose of conserving foreign exchange for war purchases. A long list of manufactured items is on the prohibited list, including automobiles, sporting goods, refrigerators and other items of like character. A still further long list of items is restricted in importation by the requirement of a license.

Despite earlier exchange precautions imposed, Canadian imports from the United States have risen from about \$40,000,000 per month before the war to an average of \$65,000,000 per month, with a peak of \$74,000,000 in October. Canadian exports to the United States before the war were \$27,000,000 per month and have been \$40,000,000 per month recently. The gap must be bridged by Canada selling the United States more goods or buying less. For the time being, the restrictive measures reduce the imports of many items, but the total imports from this country are expected to be greater rather than less. The change will be in a shift in the character of the imports by a reduction of nonessential imports for war purposes in order to make possible a substantial increase in the purchases of vitally needed war equipment and supplies, announced the Canadian ministry.

Following is the list of horticultural items prohibited import under this measure:

Item 78—Florists' stock, viz.: Palms, ferns, rubber plants (*ficus*), gladioli, canas, dahlias and peonies.

79—Florists' stock, viz: Azaleas, rhododendrons, pot-grown lilacs; hydrangeas and other pot-grown plants, n.o.p.; rose stock and other stock for grafting or budding, n.o.p.; seedling carnation stock, araucarias, bulbs, corms, tubers, rhizomes and dormant roots, n.o.p.; dwarf polyantha rosebushes imported or purchased in bond in Canada by florists for bona fide forcing purposes in their own greenhouses prior to disposal; laurel and holly foliage, natural or preserved, whether in designs or bouquets or not.

79a—Rooted carnation cuttings in their first year of introduction.

79b—Flowers and foliage, natural, cut, whether in designs or bouquets or not, n.o.p.

82(d)—Rosebushes, n.o.p.

82(e)—Trees, shrubs, vines, plants, roots and cuttings, commonly known as florists' or nursery stock, n.o.p.

HOME BUILDING HIGHER.

Residential construction activity gathered considerable momentum about the middle of this year and is now running about thirty per cent better than in 1939. During October, the dollar volume of contracts let for one and two-family homes in the thirty-seven eastern states reported by the F. W. Dodge Corp. totaled \$117,141,000 and was the largest small house total for any October since 1928.

AMERICAN NURSERYMAN

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CONVENTION TIME

During the next two months over a score of state association conventions will be held, at which many buyers and sellers will meet. While getting your share of that business, remember you can reach 4,500 trade buyers through the advertising columns of this magazine—a good many times the number you or your salesmen can meet at the gatherings you attend. To move stock easily and quickly, don't cut prices—reach out for more customers.

Mail copy for the January 1 issue to reach the publication office by December 26.

Rootstocks for Dwarfing Apple

Suggests Budding Apple Varieties on Noninfectious Hairy Root Seedlings to Make Preliminary Tests for Dwarfing Effect on Broad Scale—By E. A. Siegler

Recently, horticultural workers, nurserymen and orchardists have shown a recurrent interest in dwarf fruit trees. Although the question of the proper size for a tree may remain subject to debate, from the orchardists' standpoint there are many advantages in trees which begin cropping at a relatively early age and which may be dwarfed to varying degrees below standard size. In this country, Tukey (1) and Shaw (2) in particular have discussed this subject so fully as to make further comment unnecessary. This article, therefore, will deal with a phase of the subject of more immediate interest to nurserymen and to horticultural workers interested in apple rootstocks.

It is here suggested that apple seedlings exhibiting either excessive or tuftlike root formations at the collar region (figure 1, a) may serve as a source of rootstocks for dwarfing. Such seedlings are of frequent occurrence in beds where seeds collected from our common domestic apple varieties are used.

This suggestion is made because of the marked similarity of this type of root system, which the writer (3) has called "noninfectious hairy root," to the root systems of many of the more dwarfing types of rootstocks selected by Hatton (4) and his associates at the East Malling experiment station, England, and introduced into this country. The English workers have been pioneers in selecting, propagating vegetatively and testing various types of rootstocks under orchard conditions. Their early work was centered on Paradise and Doucin material such as has been imported into this country for many years for use as dwarfing stocks. The fact that these stocks, in the nursery, root so readily from the stem and have a tendency to be surface rooting enables the propagator to build up a supply of rootstocks of identical genetic composition from any individual that may have been originally selected. Thus by vegetative propagation clonal material is readily obtained. Attention should be called to the fact, however, that clones having normal root systems also may

have a dwarfing effect, but, in general, such clones are not so readily propagated commercially in stool beds by mound layering.

Many of the dwarfing clones of English selection exhibit burrknots on the aboveground stems. It is significant that 1 and 2-year-old noninfectious hairy root seedlings also occasionally exhibit burrknots on the stems above the ground line (figure 1, b). Maney (5), in discussing burrknots with reference to the type of roots they produce, noted that ". . . the masses of rootlets growing above the hairy roots of the original seedling rootstock arise from typical burrknots,

indicating . . . that the original hairy root development was due to the same cause." He also stated that ". . . burrknot is a hereditary characteristic . . ." and concluded that ". . . the simple form of hairy root on apple seedling stock is caused by burrknots which is a common characteristic of practically all dwarf stock and which is not uncommon on stocks of free growing nature." (This "simple form" of hairy root is what the writer refers to as the noninfectious type of hairy root.) The English workers also have stated that the "knotting" habit on the aboveground stem is associated with rootstocks that are dwarfing.

In view of the foregoing, it is reasonable to conclude that, in general, (1) burknotting clones root readily from the stems, (2) the type of roots from such clones is abnormal in that they usually occur in dense clusters or tufts near the ground line (apparently identical with noninfectious hairy root) and (3) burknotting clones frequently produce dwarfing effects when used as rootstocks. It, therefore, seemed desirable to determine if all, or at least how many, 1-year-old domestic seedlings showing noninfectious hairy root would eventually develop burrknots on the stems above the ground line. Accordingly, eighty 1-year-old apple seedlings classified as having noninfectious hairy root systems and eighty 1-year-old seedlings classified as having normal roots were planted in the spring of 1939 for future observation on the occurrence of burrknots. Of the sixty-nine noninfectious hairy root seedlings surviving at the end of two years, eighty-seven per cent had burrknots on the stem aboveground; only thirteen per cent of the surviving seventy-five normal-root seedlings showed burrknots.

For many reasons, it is not always possible to classify 1-year-old seedlings with absolute accuracy, but, regardless of errors in classification, these results strongly indicate that for practical purposes the great majority of seedlings exhibiting excessive or tuftlike roots at the collar region will in time exhibit burrknots on the stems. Conversely, comparatively few

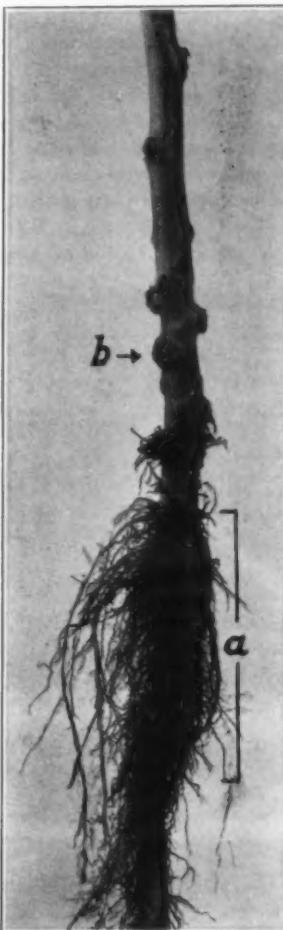


Figure 1. A 2-year-old apple seedling, showing noninfectious hairy root symptoms at (a); roots are pushing from the burrknots at the ground line and burrknots are shown on the aboveground part of the stem at (b).

seedlings classed as having normal root systems will exhibit burrknots in the same length of time.

As an example of the differences in appearance in apple root systems, the root systems of typical specimens of the 3-year-old trees in this experiment, grown from normal seedlings and from noninfectious hairy root seedlings, are shown in figures 2 and 3, respectively. The normal root system (figure 2) consists of a well balanced framework of side roots and the small feeding roots are finely divided. The noninfectious hairy root system (figure 3) shows large branch roots originating near the ground line and atrophy of the original root piece (shown at arrow). This root system is "hairy" in that it shows many small feeding roots, but, in general, these are not the finely divided type found on normal systems. These illustrations and comparisons merely serve to show the possibilities involved in a study of the physical characteristics of root systems in the hope that eventually general conclusions may be drawn to explain the effect of root systems on top growth. For the past decade English workers have made painstaking studies along these lines in addition to their physiological and biochemical

investigations on the intereffect of rootstock and scion variety.

If, upon further experimentation, noninfectious hairy root seedlings prove to be dwarfing, the fact that a large percentage of seedlings from our domestic varieties exhibit these symptoms would afford abundant opportunity for selection of stocks for dwarfing, including desired degrees of dwarfing, and for trials with various commercial varieties in different parts of the country. It might be practicable for investigators to bud (relatively high on the stems to prevent scion rooting) several apple varieties on any desired number of noninfectious hairy root seedlings and then make an orchard planting of these trees (approximately 8x8 feet) to observe the effect of the individual seedlings on the behavior of a given variety. If the desired effect is secured on one or more trees, propagation from the seedling roots of these trees could then be started to build up a clonal population of a rootstock that at least has proved satisfactory for one variety. This method would permit the testing of innumerable seedlings with many varieties under the conditions existing in different parts of the country. The other alternative is to follow the present practice of selecting

seedlings for propagation to build up sufficient clonal material over a number of years for subsequent orchard testing under different conditions. Although the latter method has many advantages, mainly with respect to testing the ease of propagation, relative cold resistance, etc., of selections, it is probable that over the same period of years and with no greater effort, the former method would permit the preliminary testing of a much larger number of seedlings.

In conclusion, although experimentation has not gone far enough to state that all seedlings showing pronounced noninfectious hairy root are dwarfing in character, the evidence points to the desirability of testing such seedlings now available in large quantities, for producing the desired degree of dwarfing.

1. American Nurseryman, August 15, 1940.
2. Connecticut Pomological Soc. Proc., 48: 15-22, 1939.
3. American Nurseryman, February 1, 1940.
4. Jour. Pomol. and Hort. Sci., V, No. 3, 1926.
5. National Nurseryman, September 1, 1929.

L. L. Kumlien, of the D. Hill Nursery Co., Dundee, Ill., returned last week from a vacation in Florida.

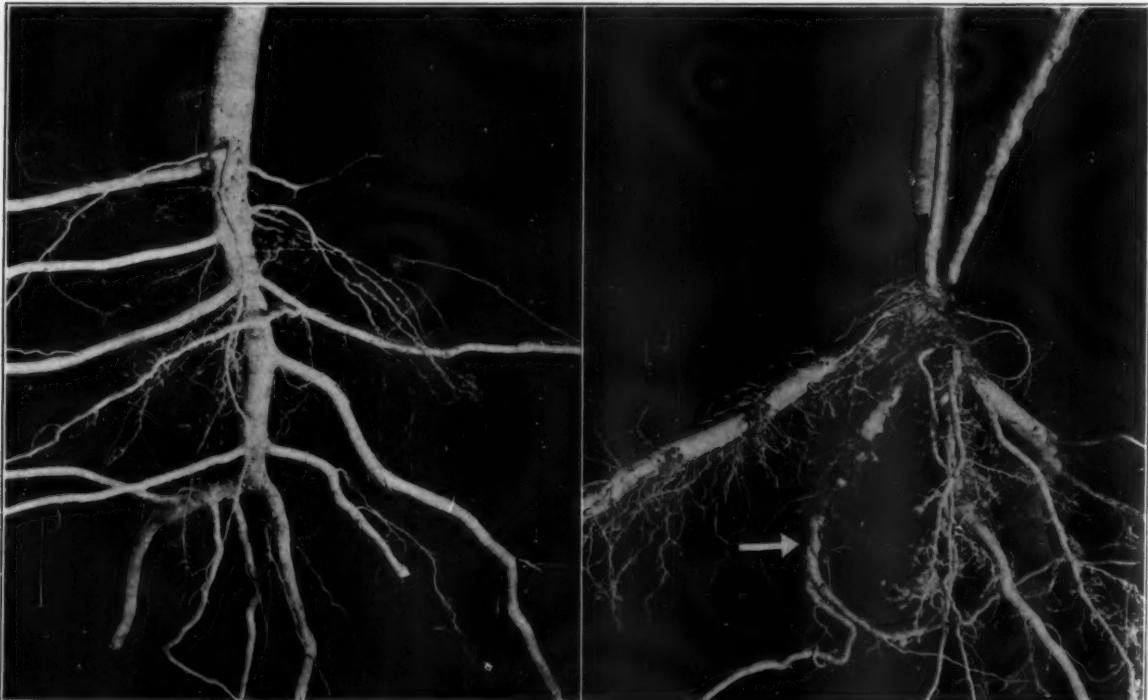


Figure 2. Typical 3-year-old apple seedling from the lot of 1-year-old seedlings classified as having normal roots.

Figure 3. Typical 3-year-old apple seedling from the lot of 1-year-old seedlings classified as having noninfectious hairy root symptoms.

Identifying Woody Plants in Winter

Review of Bud Structure and Winter Characteristics of Families of Common Trees and Shrubs Comprising Several Hundred Species—By Leon Croizat

After the first sharp frosts of November, the work of determination of plant material that has been briskly running through our fingers in the warmer part of the year almost suddenly comes to a dead end. We still receive evergreens, fruits, leaves and occasionally peculiar combinations of fruits and leaves picked on the ground and believed to have grown on the same tree, but not many are the correspondents who take the trouble of sending material. The majority of them seem to feel that a twig in winter is as useless to a botanist as a discarded piece of wire.

I should have no quarrel with this belief, because it saves me, as the familiar saying goes, a lot of headaches. I could do nothing to determine the species of a crab apple or the variety of a cultivated azalea without a full complement of leaves, fruits and flowers, and I am glad that nobody asks me to do something impossible by trying to identify this material in winter. However, pretty fair guesses can be taken in most cases even on samples that show little else but buds. The articles which I wrote last winter have probably given the reader the impression that a twig in bud is not necessarily fit to be dumped in the wastebasket. The bud is a diminutive whorl of leaves, and to give it a second thought is by no means a loss of time. To know at least something about buds is a necessity for any professional plantsman. In addition, many are the curious souls who are loath to accept defeat at the hand of winter and still like to go around, guessing about this and that tree or shrub.

As I write these lines I have before me Professor Rehder's new edition of "Manual of Cultivated Trees and Shrubs," which I shall take as my guide to pass under review some of the commonest and most characteristic of our trees and shrubs. Right now I shall briefly review the ephedra, the sweet gale and the willow family, which last includes also the poplars. Last winter and spring, as the reader may recall, we went through the evergreens and the magnolias.

The cultivated species of ephedra

do not present problems of winter determination. Their wiry upper twigs look much like scour-rushes both summer and winter; they suggest, in other words, stiff, "slenderized" quills, often grayish-green, strung up at the joints and carrying there small scales and a tiny sheath like a papery ring. Some ephedras are low, barely fit for a rockery, as, for instance, one of the hardiest, *Ephedra Gerardiana*, which we can grow here. Other species are fairly tall, forming bushes up to five or seven feet in height. Let us not unduly worry about determining the species, both in summer and in winter. That is a job fit for a specialist, and we shall do well if we can recognize an ephedra for such. This should not prove difficult, because there is nothing quite like it in cultivation, though, as we shall see, some plants of the pea family suggest ephedras in the way they grow, as well as in their being nearly leafless.

The sweet gale family is not large, as it includes only two main groups, or genera, the bayberries, myrica, and the sweet ferns, comptonia. These plants are cultivated, if sparingly, especially where the soil is poor, sandy or peaty, forming loose and spreading shrubs that reach a man's height or

are slightly taller (myrica) or much lower (comptonia). The leaf of the sweet fern is one of the most characteristic products of plant life and, fortunately, it tends to persist during the winter, at least toward the tip of the branches. At the foot of these leaves are often found large buds, or rather small catkins. A leaf and a catkin of this plant are shown (figure 1(a)), and this sketch will tell the reader more than a long technical description can put into words.

The bayberries commonly cultivated are three: First, the bayberry itself, which used to be known as *Myrica caroliniensis*, but is now renamed *Myrica pensylvanica*; second, the wax myrtle, *Myrica cerifera*, which also used to be known as *Myrica caroliniensis*; third, the sweet gale, *Myrica Gale*, which grows in the northern parts of Europe, but jumps straight across the Atlantic to thrive in America from Labrador to Washington and Virginia.

The bayberry and the wax-myrtle are so much alike that nobody in the trade can worry about distinguishing the one from the other. The true bayberry, however, should be picked for colder climates. When in fruit, these two plants can be identified readily; they carry round, hard, grayish, waxy and pleasingly scented berries. When not in fruit, the bayberry, especially, can be spotted at a glance by anyone who has seen it once. It bears its uppermost branchlets in stiff and short whorls, and each twig is studded at close and regular intervals by small, hairless, dull, purplish buds with few scales. The twig itself is somewhat hairy and, at least in the early fall, "resinous-dotted," as botanists say, which means "dusted over" by droplets of yellow resin. The bark is aromatic. The leaf is leathery and tends to remain on the twig throughout. Figure 1(b) illustrates one of these twigs.

The gale has slenderer and less stiffly borne branchlets than the bayberry, as a rule. It has uppermost buds that are much larger and more pointed than those of this plant. Figure 1(c) illustrates the tip of a sprig of the gale that shows how different the two



Figure 1. In (a) the catkin and the leaf of the sweet fern; in (b) an upper twig of the bayberry; in (c) the large and pointed buds of the gale. Sketch approximately to scale.

plants are. The fruit of the gale also is quite unlike that of the bayberry; it grows clustered in small catkins, is resinous-dotted and carries tiny wings. Any confusion made between the gale and the bayberry is due to errors in recording and labeling, as the two plants cannot be mistaken the one for the other even by casual observers. Such a confusion, nevertheless, is often made.

Sixty-three species of willows at least are listed by Rehder's Manual, and I shall not even try to tell the reader how two of them are to be identified in winter, for the good reason that I do not believe in false pretenses. Much can be said and written, of course, pointing out, for instance, that the white willow, *Salix alba*, has distinct varieties, one of which has light yellow twigs (the so-called var. *vitellina*, which means colored like the yolk of an egg) standing out a mile away under a bright winter sun. The truth, unfortunately, is that since nobody can truly know anything beyond a few generalities, anybody may take his own guess and hope to be right. The point that interests us is that willows are easily identified as such when not in leaf. As if to atone for the frightful mess made in the species, varieties and hybrids of these plants, nature has graciously consented to give them a uniform and distinctive type of bud. This bud has one scale only, which is laid on almost in the same manner as a glove incases a finger. As a matter of fact, the bud of a willow calls to my mind the picture of a fingernail, witness figure 2(a), taken from a common pussy willow, *Salix caprea*. In some cases, the bud is much slenderer and more pointed, even more clawlike. The scale is often slightly notched at the tip, or lightly grooved at the face toward the twig. This arrangement suggests the bud scale of the plane tree, but this plant, unlike the willows, has a bud which is conic and that is surrounded by a characteristic leaf scar. The leaf scar of a willow is always small, not much larger, if any, than the base of the bud. Many are the willows that, when chewed, taste slightly bitter.

The poplars, which are next of kin to the willows, have buds that are unlike those of their brethren. No cultivated poplar has ever a bud which is single-scaled; all these poplars have

buds with several to many scales, and so to confuse in winter a poplar with a willow is impossible.

Most species have buds that are hairless and more or less smeared with a fragrant resin, which explains why such names as balsam poplar and balm of Gilead have gained their currency. In some cases these buds are large, those especially at the end of a free-grown shoot, and angled rather than rounded. The balm of Gilead (figure 2(b)), known to botanists as *Populus candicans*, may have buds, for instance, exceeding the length of one full inch. Two other large-bud species are the balsam poplar, *Populus Tacamahaca*, and *Populus berolinensis*, which has been extensively used in hybridization work, but remains, strange to say, one of the most frequently misidentified poplars in cultivation. I have received it under every possible name except the correct one. *Populus deltoides*, also called by some *Populus balsamifera*, or northern cottonwood, is another frequently seen poplar that has the usual large buds. It goes without saying that this group of poplars, as well as the Lombardy poplar, which has light yellow twigs and small pointed buds, are easily recognized in winter. They may be confused with the sweet gum, *Liquidambar Styaciflora*, but in this plant the bud is rounder and not

resinous. The wood of a poplar, of course, is brittle, and even the poplar that carries wings at the shoot, *Populus angulata*, has wings that are not corky like those of the sweet gum.

The white poplars, or aspens, are difficult to identify by the bud, but easily recognized in the field by their light-colored bark, smooth at least at the upper main branches. The leaf of these trees is usually more or less toothed, and to find some leaf on or around a tree means to save oneself a great deal of trouble in identifying a plant that reveals little by its bud. In figure 2, the reader sees (c) the bud of the abele, or white poplar, *Populus alba*, which is "dusty-cobwebby," so to speak, at least at the upper ranges of the shoot, and (d) that of the large-toothed aspen, *Populus grandidentata*, which is much like that of the white poplar, but less hairy. The leaf outlined in the background is the average one of the large-toothed aspen. Other aspens generally have teeth that are less deep.

SPRAY HOLLY LEAVES.

Christmas holly that is shatter-proof—with leaves and berries that stick tight in transit and last longer in wreaths and sprays—is possible now as the result of United States Department of Agriculture studies of uses of growth-regulating chemicals.

The scientists had previously discovered that growth substances applied while holly is in bloom cause it to set the red berries without pollination. This proved a practical aid to greenhouse men growing small holly plants in pots for the Christmas trade, it is reported.

Oregon experiment station horticulturists, working recently along the same lines as the federal bureau, suggest still another use for plant hormones. They report that spraying or dipping cut holly in a weak solution of naphthaleneacetic acid prevents the leaves and berries from dropping off during shipment. Holly sprayed with one part of naphthaleneacetic acid to 10,000 parts of water is stated to have kept for several weeks without shedding leaves.



Figure 2. In (a) the single-scaled bud of the pussy willow; in (b) the large and resinous buds of the balm of Gilead; in (c) the bud of the white poplar, which is finely and softly hairy; in (d) that of the large-toothed aspen, a leaf of which is shown in outline in the background of the sketch, not to scale.

TO increase their propagating facilities, C. R. Burr & Co., Manchester, Conn., have leased the Manchester Greenhouses, 144 Oakland street, near the firm's home office.

Excerpts from a Plantsman's Notebook

Further Notes on the Culture, Propagation and Uses of Many Kinds of Plants Given Garden Trial in Years Past—By C. W. Wood

Hyacinthus Orientalis.

(January 5, 1935.) A picture that comes to mind, of a garden that I saw years ago in West Virginia, brings out the value of *Hyacinthus orientalis* in a role which it seldom occupies. There it had been grown and loved for years, perhaps generations, its offspring being given new fields to conquer as lifting and dividing became necessary in old plantings, until its soft blue bells had spread a lovely carpet in the light shade of an oak grove in the rear of the house. I have thought often since then that the original hyacinth could be used more freely in the making of garden pictures, much to the advantage of gardens and gardeners as well as dealers.

One reason hyacinths are not more often used, I suppose, is that they are generally thought of in terms of their modern forms, the big Dutch named kinds, which are fine enough in pots or perhaps in formal plantings, but scarcely suited to naturalistic use. Although there is little likelihood of the so-called Dutch varieties' being grown in large quantities in many parts of the United States, there is no reason why the neighborhood grower could not add to his yearly income by growing a few of the type and showing his customers how lovely they can be used correctly.

The Welsh Poppy.

(December 1, 1940.) If you have tried your luck with the blue poppy, *Meconopsis betonicifolia Baileyi*, and failed, as I suspect you did, you may be ready to give up the whole genus as a bad job. If you have further tested your skill as a gardener by trying to grow *M. integrifolia*, *M. regia*, *M. violacea* and other incorrigibles of the clan, I am sure that you are tired of all kinds of meconopsis. Granted that these Asiatic poppies are not easy to grow in the climate of eastern United States and that we shall probably never be able to grow them with ease, there is some hope that we shall be able to work out the culture of some kinds, and we always have the Welsh

poppy, *M. cambrica*, to fall back upon.

Of course, the latter cannot compare in beauty with some of the Himalayan species, yet it is a good ornament for a moist, shady spot, giving freely of its single, bright yellow poppies in spring and more sparingly throughout the summer, if seeds are not allowed to form and the plants are happily placed. Plants left undisturbed for years make large tufts and are then a beautiful sight. This is a subject that could well be made more of in this country, where the Asiatic species do so poorly. It is also available in variety *aurantiaca*, with orange flowers, and in a strain of doubles, which not only vary in doubleness, but also in color, both yellow and orange being present. Plants are easy from seeds and easily grown in shade and moisture.

Thymus Nitidus.

(December 2, 1940.) Although all thymes are good property in the hands of the neighborhood grower, the rarer ones are especially valuable. And of these *Thymus nitidus* would come near the head of the list in sections where it is hardy. Just how hardy it is, I cannot say; certainly, it cannot stand the winters of northern Michigan. It comes from southern Italy—from around Mount Etna, I believe—so might not be able to live outdoors north of the Ohio, but wherever it is hardy it makes a beautiful wall ornament or edging plant in full sun. It is a little subshrub, making neat fragrant bushes, four to six inches high as it grew here in pots in protected frames, but said to get up to ten inches or a foot in good soil where it does not freeze back. For a month or more in late spring it smothers itself under trusses of lilac-colored blooms. It is easily grown from cuttings.

Pentstemons and Lime.

(December 2, 1940.) A correspondent tells me in a letter received this morning that he recently read a statement made by a prominent English plantsman that all pentstemons "have a decided preference for

lime" and he wonders how that fits in with my experience. To be perfectly frank, it is my opinion that the statement takes in too much territory. My present judgment of the cultural needs of pentstemons, which is merely a personal opinion that may be no nearer the facts than the author quoted, may be briefly stated as follows: Most pentstemons are tolerant of soil conditions so long as they are assured sunshine and good drainage (the few moisture lovers, including the eastern *P. Lavigatus* *Digitalis* and the western *P. gracilis*, are the only exceptions that come to mind). Some of the alpine forms, such as *P. alpinus*, *P. utahensis*, *P. glaucus* and *P. Hydbergii*, are, I believe, definitely lime haters; others, like *P. grandiflorus* and some forms of *P. subglaber*, are either lime lovers or at least tolerate an exceedingly alkaline soil. Here both of the latter luxuriate in soil that grows lime-loving legumes, like alfalfa. At one time I was almost ready to believe, as I recorded in these columns several years ago, that an acid soil was a necessary part of successful pentstemon culture; now I am not so sure.

But I am sure, though, that many western species are naturally short-lived under any conditions we can give them in the east. If one is afraid of plants of short duration he would better stay away from pentstemons. The entire matter of the duration of life of plants is an intriguing one, complicated by factors seldom thought of by gardeners. In the *Bibliotheque Universelle de Geneve* (1831) we read: "Numerous examples seem to confirm the idea that there still exist, on our planet, trees of prodigious antiquity—the witness, perhaps, of one or more of its latest physical revolutions. If we consider a tree as the combination of as many individual forms as there have been buds developed on its surface, one cannot be surprised if the aggregate resulting from the continual addition of new buds to the older ones should not necessarily have any fixed termination to its existence." Agardh, reasoning from that or a similar premise, later thought that the short

life of many herbaceous plants could be traced "to the preponderance of the production of blossoms and fruit over the formation of leaves." The behavior of many pentstemons bears out that line of reasoning, as all who have grown *P. alpinus* or the more familiar *P. grandiflorus*, with their heavy production of flowers and fruits on sparsely leaved plants, will readily agree.

In conclusion, I think it is safe to say that the presence or absence of lime is of less consequence to most pentstemons than most of us think. Most herbaceous kinds are naturally short-lived and that is all we can make of it. Some of these can be induced to stay with us several years, if they are cut back immediately after flowering; some may be perpetuated from cuttings, and of course all may be grown from seeds, saved from isolated plants. And the better kinds are certainly worth yearly renewal, if that proves to be necessary.

Named Primroses.

(December 2, 1940.) Inquiries would indicate a lively increase of interest in named varieties of primrose. And that is an encouraging sign, for they are plants of great value in the spring garden. Before one gets far into the interesting task of collecting and propagating them, he will find some delicate kinds which may be rather discouraging at first. Whether one should or should not grow the delicate ones will largely be determined by local conditions, including one's clientele, but some of these plants are so beautiful that a plant lover will find it hard to turn them out. Fortunately, not many miffy ones will be encountered, but when they are and the grower wants to propagate them, a trick, perhaps not original, though I forget where or when it came into my mind, practiced here in northern Michigan will usually make the short-lived ones permanent fixtures. The plan, which is merely to divide the plants before they are through blooming, is so simple it may carry little weight in print, but it does work in practice.

Turk's-cap or Swamp Lily.

(December 2, 1940.) The American Turk's-cap lily, *Lilium superbum*, which inhabits "rich low grounds" from New Brunswick to Virginia and westward to Minnesota and Missouri,

is one of the loveliest of native species, deserving far more use in gardens than it has ever received in this country. Commercial growers are partly to blame for that condition, for we do not now take advantage of the opportunity which nature and our calling have given us. I remember a few growers of my younger days who always had a supply, but I know no neighborhood nurserymen at present who list bulbs of their own growing.

If you do not know the plant you have little idea of the beauty you are missing in its stately growth of six to eight feet which is amply clothed in foliage, usually in whorls, and topped with a pyramidal cluster of as many as forty beautiful Turk's-cap flowers. The blooms are a rich orange-scarlet, spotted purplish-brown at the base, when they first open, and fade to a reddish-orange with age, giving the cluster a pleasingly varied appearance. Although the plant favors moist situations in nature (hence one common name, swamp lily) it does well in rich borders if given some shade in the absence of a bountiful supply of moisture. It will not then reach the eight feet one often sees along the stream banks, but rather it will remain at about three or four feet and be still a lovely lily. According to the late David Griffiths (U. S. Department of Agriculture circular 102), it may be propagated from seeds or scales. A reading of that publication, which can no doubt be had of the Superintendent of Documents, Washington, D. C., at the old price of 20 cents, should be a profitable undertaking for every beginner in lily propagation.

Chrysanthemum Rubellum.

(December 2, 1940.) With a splendid display fresh in mind of the rather new *Chrysanthemum rubellum*, a plant of many aliases, including *C. erubescens* and *Chrysanthemum pulcherrima*, I should like to urge every commercial grower to make its acquaintance. I do not know how it would react to conditions in the southern states, but can see no reason why it would not behave well; here in north Michigan it is one of the finest things for late summer bloom that have come my way for a time. It has almost everything that one expects to find in the

perfect plant, including ease of culture, good habits of growth, clear color and delightful fragrance. The first of these calls for nothing more than a fairly rich soil, sunshine and good drainage, if the soil is heavy; the second means good clean growths to the height of twenty inches or so, clothed to the ground; the third is a pleasing shade of pink, perhaps best described by the qualifying term salmon, and the fragrance reminds me of honey. Looked at from every angle, it is an excellent plant, one that I expect to go far. It may be grown from seeds, with a slight variation in flower color, and also endlessly by division. The new named variety, *Clara Curtis*, received from two sources, was scarcely distinguishable from the type in trials here.

Speaking of chrysanthemums, the thought comes to mind that a few of the new introductions should be of interest to growers in the north, where few kinds are of much value. One of these, *Pygmy Gold*, has been especially promising in trials here and will, I believe, be useful throughout most of the north. Commencing to bloom by or before the middle of September (perhaps earlier farther south where the days are shorter), it continues to produce its miniature, golden-yellow flowers until hard frost has ended its act. It is hardy and a good grower. Although I have not grown *Little Bob*, a New English introduction, it made a favorable impression when I saw it last September, late in the month. It was then a low mound of reddish-bronze, suggestive of the cushion type, yet better than any of that class that I have seen. No doubt most northern growers know and like the old *Glory of Seven Oaks*; if so they will surely want the newer variety, *Carrie*, which is similar in many ways, including its earliness, but its color is a lovely pale yellow.

THE Dingee & Conard Co., West Grove, Pa., at one time a leading firm of rose growers, has gone out of business, advises P. J. Lynch, Sr., who was president of that company and also is president of Heller Bros. Co., New Castle, Ind. The Dingee & Conard Co. had open accounts of approximately \$1,200, which Mr. Lynch says will be paid as soon as pending negotiations are concluded.

Minnesota Association Convention

Tree Planting by Farmers and Current Trade Problems Discussed at Fifteenth Annual Meeting of Minnesota State Nurserymen's Association

The fifteenth annual convention of the Minnesota State Nurserymen's Association was held at the Nicollet hotel, Minneapolis, December 10 and 11. A large number of members from various parts of the state were present when President John K. Andrews, of Faribault, opened the proceedings with his official address.

H. J. Reid, St. Paul, presented his report as treasurer, and R. N. Ruedlinger gave a brief report as secretary. H. J. Reid gave a talk on plant materials, and as this was requested to be made available to those present, he promised to put it in form for that purpose as soon as possible.

Paul Miller, director of the University of Minnesota extension division, speaking on the A. A. A. tree-planting bonus, stated that but a small amount of money was available to operate the program, and after consultation with officers of the nurserymen's association, it was decided to obtain all possible data from the members, this to include trees to plant and prices at which they could be purchased, as well as to urge farmers to deal direct with the nurserymen. He said he had always found the members perfectly fair in all his dealings with them, giving good stock and service. It had been found that price was a small factor in the matter. Not so many farmers had taken advantage of the bonus offer as had been hoped. In the coming year the bonus will be reduced to \$15 from \$30 in 1940. It was a hard task to get even this amount because of the fact that so little support had been obtained from neighboring states. Mr. Miller was afraid it would be impossible to predict whether the next legislature will approve of the small sum of \$15. One thing is certain—nurserymen can produce if requested to do so. Much good has been done in the direction of making farmers tree conscious, although they had been slow to take hold of the offer.

The educational progress made was especially noticeable in the prairie regions, where much planting is required because of the damage resulting from what the speaker referred

to as the great drought, when thousands of trees had been killed. Because of the small amount of support given the program from outside Minnesota, this seemed a case in which the national association could really do effective work, he said.

Bj. Loss, Lake City, gave a brief talk on some of the national issues confronting nurserymen, citing the wages and hours act, social security law and the government dictum that nurserymen were not agriculturists and had no part in any program affecting agriculturists. The fact is, he said, if nurserymen are to remain

was made by Mr. Loss for greater support of, and a larger membership in, the national organization.

E. C. Hilborn, Valley City, N. D., read a telegram regarding the next A. A. N. convention, which will be held on a ship leaving Chicago for a 4-day trip next July.

In the absence of Commissioner Trovatten, Deputy Commissioner Thye addressed the convention. Prefacing the address by a few remarks gleaned from his experience as a farmer, the deputy said he favored tree planting by farmers, but stated that spring was the worst time to approach the farmer about it, as he had too much else on his mind. Getting his crops into the ground left little time to consider tree planting. The impression was given that if farmers were to be interested in fruits and ornamentals, they should be approached at some time other than spring. The department regards nurserymen as engaged in a branch of agriculture and the problems of nurserymen as appealing to the department as much as those of any other branch.

Commissioner Trovatten was opposed to the state's competing with nurserymen and would not engage in having anything to do with selling trees to private owners. National or state forests are something else again, he said, but nurserymen could rest assured it would not be the policy of his department to enter into competition with them.

Dr. Strunk, commissioner of conservation, gave a well received talk on a number of problems regarding which an appeal would be made to the coming legislature, in regard to raising fees and giving greater power to the conservation department. The work of the department was described as few nurserymen had heard it described before, and the talk made a great impression on those present.

Prof. A. G. Ruggles, state entomologist, spoke on vigilance, the secret of healthy planting stock, and described in detail the gypsy brown-tail moth and the immense amount of money spent in eastern states to com-



Vincent K. Bailey.

where they are and anything approaching federal inspection takes place and what is known as a federal tag is imposed, it might well decide whether nurserymen will be able to remain in business. Referring to Dr. R. P. White, Mr. Loss said there is no doubt that the A. A. N. secretary has the respect of all government officials because of his wide knowledge of nursery matters. A federal tag would practically eliminate state inspection. Mr. Loss said he was proud of the manner in which the case for state inspection had been presented to the National Plant Board by Thor Aamodt, of the Minnesota nursery inspection service. All but a few of the officials of the states vigorously opposed the change. An appeal

bat the pest. There appeared to be little danger of Minnesota's becoming infested with this moth, in spite of the fact that it had jumped over what were believed to be its western boundaries.

The title, "Future Planters 4H Members," was objected to by A. J. Kittleson, head of 4H Club work in Minnesota, as he gave figures to prove that much planting was already being done by 4H boys and girls. Seventy-one windbreaks had been established, many on the western part of the state, while 116,373 trees had been planted and over 1,000 shrubs. This, the speaker contended, made the work a matter of the present, and not the future. The state now has over 49,000 members, and if the work of planting increases, it will put the boys and girls in the front rank as conservationists. He appealed to the nurserymen for their continued support.

The nominating committee presented its report and it was adopted without opposition. Vincent K. Bailey, of J. V. Bailey & Sons, Newport, was elected president; Frank Siefert, Stillwater, vice-president; H. J. Reid, treasurer, and R. N. Ruedlinger, secretary. Paul Peters, Sherburn, and Leslie Mitchell, Owatonna, were elected members of the executive committee.

Tuesday's sessions closed with a buffet supper attended by a large number of members. Senator M. R. Cashman acted as toastmaster and during the evening presented A. M. Brand, of Faribault, with a plaque, on behalf of the association, in recognition of his work as a breeder of peonies and his untiring work in

developing these flowers to the extent that the name of Brand is known wherever peonies are known and grown. Reference was also made to the work of Mr. Brand's father, O. M. Brand, who introduced the Peerless apple many years ago, one of the first to be introduced by a Minnesota grower. L. S.

TWIN CITY MEETING.

The deferred meeting of the Twin City Nurserymen's Association was held November 27 at Wade's restaurant, Minneapolis, Minn.

Dr. Alex A. Granovsky, of the division of entomology, University Farm, gave an interesting talk on insect pests injurious to nursery stock, which evoked some discussion.

J. V. Bailey, Newport, was appointed chairman of the code committee, members of which include H. J. Reid and Harry Franklin Baker, both past presidents of the association.

J. Juhl, St. Paul, who was in charge of the association's exhibit at the state fair, presented a report on what was a creditable display, although it was evident that more space should have been occupied.

Grant E. Perl, president, brought up the question of the Ruedlinger memorial fund, suggesting that one possible use of some of the money available would be a debate by students in the college of agriculture, the subject matter to deal with the nursery industry in some form. The members agreed that something should be done about the matter, since they had shown their interest by voting an

extra \$25 to be paid to the fund from the association's treasury.

Of special interest was a discussion of methods of bidding on University of Minnesota landscape projects. One motion was to request the purchasing department to open bids publicly, bidders to be notified, minimum wage to be specified and the men employed to be covered by compensation insurance. After considerable discussion, Messrs. Perl and Reid were appointed as a committee to convey the sentiments of the association personally to the university authorities.

MAKES CHRISTMAS SALES.

Among the nurserymen who are seeking a share of Christmas business is the Villa Park Evergreen Co., Villa Park, Ill. On this page is pictured a display advertisement for living Christmas trees on the firm's selling ground, on Roosevelt road, U. S. highway 330, three miles west of Wheaton, one of the western suburbs of Chicago. The sign is flanked by two well shaped Norway spruces covered with gold and silver icicles. The display attracted much attention, and best of all, says Richard Zirkman, it brought in considerable business.

Another nurseryman going after Christmas business is Arthur L. Watson, Grand Rapids, Mich., who issued a large, handsome, illustrated circular, mailed to the local public. In it were offered living Christmas trees, Norway spruces planted in baskets for holiday use, to be set out in a permanent location after the holidays. These were priced from \$1.25 for 4-foot up to \$3 for 6-foot. Cut trees were also offered, as well as roping for fireplace and doorway decorations, cone clusters, birch log candleholders, evergreen wreaths and blankets for cemeteries, Christmas wreaths and similar items.

SOUTH DAKOTA MEETING.

The South Dakota Nurserymen's Association at its annual meeting, held at Sisseton in conjunction with that of the South Dakota Horticultural Society, November 25 and 26, with a good attendance, elected officers as follows: President, H. N. Dybvig, Colton; vice-president, E. A. Gates, Rapid City; secretary and treasurer, George W. Gurney, Yankton.



Display Advertisement of Living Christmas Trees by Villa Park Evergreen Co.

Trade Faces Changing Conditions

Careful Analysis of One's Own Business, Coupled with Wise Management, Required to Meet the New Problems Faced by Nurserymen, Minnesota President Tells Convention — By John K. Andrews

Since our meeting a year ago there have been radical changes in both the national and the international picture. These changes are certain to have an effect on the nursery business. Sound thinking and constructive action will be necessary to maintain and improve our position. It calls for wise and careful management on the part of each individual in the conduct of his own business. It demands continued watchfulness and concerted action through state and national associations.

Considerable progress has been made by these associations during the past year in a number of matters.

Trade barriers between states are gradually being lowered. The threat of federal control of nursery inspection has been definitely buried.

Contractual authority has been granted to federal tree-planting agencies such as the soil conservation service, shelter belt projects and others. This will enable them to contract with private nurserymen for the production and delivery of tree planting material over a period of years, instead of on a yearly basis as in the past.

The nurserymen's status under the social security and the wage-hour act has been improved and clarified.

Nursery stock freight rates have been made more favorable by a change in classification. The rate on bales or bundles completely wrapped or in barrels, boxes or crates is now third class instead of second, and even some items in the first class have been lowered to third class.

In regard to the Minnesota state tree law, as matters actually turned out the past year, the state extension department found it was not necessary or advisable to use its authority to purchase trees for distribution to planters. The officials found there would be no appreciable saving to planters over the price at which planting stock could be obtained direct from private nurseries. Therefore, planters were advised by the extension department to buy direct from nurserymen.

One of the unfavorable matters

that have occurred during the past year is the Interstate Commerce Commission's classification of nursery stock. The commission refuses to consider nursery stock as an agricultural commodity, or nurserymen as farmers, for the purpose of the motor carriers' act of 1935 as amended. Consequently, when trucks are hauling nursery stock interstate, they are not considered as farm trucks, for which slightly less stringent regulations are provided. This action by the Interstate Commerce Commission in the classification of nursery stock as not an agricultural

to promote success are equally important.

Indications at the present time are that there will be more activity in the nursery business during the coming season than there has been during the past season. Shall we benefit by that or not? More business does not always mean more profit. Sometimes we operate on little or no margin. Under certain conditions, more business might mean more work, but even less profit.

In order that the expected increase in the nursery business be of benefit, it must carry with it a reasonable margin of profit. We must take in more money than we have to pay out. That sounds simple. Even the newsboy knows that if he pays one cent for a paper, he must sell for more than one cent.

The great difficulty in the nursery business is that many of us, especially growers, do not realize the full cost of a tree or shrub, because we are paying for it over a term of years as we grow it on. From the time we prepare the soil, all through the planting, cultivating, pruning, spraying, digging, grading, handling and selling, we pay in different ways. We pay for seeds, labor, machinery, equipment, supplies, interest, taxes, rent, insurance, depreciation and a hundred other things. Loss by hail or wind or frost or unsold surpluses is also an element of cost. In other words, cost is really the sum total of all of our operating expenses, including average losses.

In figuring cost, it is easy to overlook some of these things, and we more often err in placing our costs too low than too high. When we do that, we are led to believe we can sell for less than we should.

One of the most vital questions in the conduct of our business is: What price shall we sell for? The items of cost mentioned are largely fixed. Except the loss of unsold surpluses, they are mostly beyond our control. That being the case, if we have fixed cost, our chance for profit lies in the establishment of a proper selling price.

Too often we are governed in set-



John K. Andrews.

commodity is inconsistent with the action of all other federal departments in respect to nursery classification. An effort is being made to have this ruling reconsidered.

All these matters just mentioned have a direct bearing on our prosperity. They are some of the things our state and national associations can do for us better than we can do individually.

There are other things, however, that affect our success, but which must be accomplished through our own individual judgment and by our own efforts. Favorable legislation is helpful, but it does not take the place of individual enterprise. Our state and our national associations are vitally important in protecting us from unnecessary and unfair handicaps, but things we can do for ourselves

ting our price by what somebody else sells for, rather than by our own operating expenses. This is often true, regardless of whether or not the quality of stock and the service rendered are comparable.

A clothier does not sell a \$55 suit for \$17, merely because somebody else on the same street is selling an inferior suit for that figure. There is no justification for selling a good No. 1 tree at the same price that somebody else is quoting for a similar variety, but perhaps a different grade.

If at the end of the year we have just come out even in our accounting, or perhaps a little behind, it is plain that we should either cut our costs or raise our selling price. Even as little as a ten per cent increase in selling price makes a difference. If your sales volume is \$10,000, a ten per cent increase would make \$1,000. Few planters would object to, or even notice, such a slight increase, especially if they have confidence they are getting good stock. Nursery prices that are too low for legitimate profit are largely our own fault and not the fault of the public.

In the days to come we must be especially careful. If we sell on a close margin now for delivery next spring, and in the meantime costs of operation rise ten, fifteen or twenty per cent, as they may well do, how shall we come out? This is a matter for serious thought by each of us.

Other vital questions are: What and how much shall we plant next spring for delivery in 1942, 1943, 1944 and 1945? What effect will the war have on business and agriculture in general and our business in particular? In our planting plans, each must decide for himself whether he will speculate on a boom or plant conservatively for a depression.

During the past few years the agricultural classification of the nursery business has become more and more recognized. Nurserymen themselves are becoming more conscious that nursery farming is merely a branch of diversified agriculture.

Like other branches, we are operating below parity with industry and labor. At the present time it is claimed agriculture is twenty-three per cent below parity. In fact, the average for the past twenty years has been away below parity. We buy our equipment, our supplies and our living on a protected market, but

sell our goods on an unprotected market, forced down by surpluses and competition among ourselves, and sometimes by competition from the government.

Effort has been made by the United States Department of Agriculture to aid general farming in order to compensate in part for having to operate below parity. Nursery farmers have not asked special aid, but we can well ask to be free from government competition. If we ourselves recognize our position and our rights and defend them in a constructive way, there is reason to believe we shall receive fair treatment.

In the months to come, with the prospect of increased business, but also with the prospect of increased costs and complications, let us not be caught napping.

Careful analysis on the part of each nurseryman of his own individual business, coupled with wise management of it, in view of changed conditions, should bring us a greater degree of prosperity for the period just ahead.

PITTSBURGH GROUP MEETS.

The Western Pennsylvania Nurserymen's Association held one of its finest meetings November 19, at the Hotel Schenley, Pittsburgh. Sixty-five members and friends enjoyed the various speakers and dinner.

The meeting opened with the address of welcome by President M. W. Hinn. This was followed by a short business session.

W. R. Somers, of F. H. Woodruff & Sons, Milford, Conn., spoke on permanent turf grasses. Mr. Somers outlined many of the interesting tests that they are conducting at Milford.

Robert P. Meahl, State College, gave an illustrated talk on plant materials. Mr. Meahl showed many new, as well as old, shrubs and trees in full color and discussed the merits of each. This was a most interesting talk and was full of valuable information.

Frank L. Stark, Jr., of the department of plant pathology at Cornell University, spoke on the use of chlорopicrin for soil sterilization in the greenhouse and lawn making. Mr. Stark's talk was made possible through the courtesy of Innis, Speiden & Co., New York.

After dinner, Attorney Clyde S. Schumaker, Butler, Pa., had the gath-

ering roaring with laughter with his ready wit.

The final speaker of the evening was John B. Bracken, head of the school of landscape architecture at Penn State, who spoke on landscape design and illustrated his talk by drawing several designs on the blackboard.

Directors elected for the coming year were as follows: Harry Troup, Bakerstown; John M. Eisler, Butler; Charles Zimmerman, Pittsburgh; Louis E. Wissenbach, Pittsburgh; Roy Briedenbach, Millvale; M. W. Hinn, Sewickley, and Sylvester Curto, Pittsburgh. L. E. Wissenbach, Sec'y.

LANDSCAPERS ORGANIZE.

The North Jersey Landscape Association, a new organization formed by landscape contractors, landscape gardeners and gardeners of northern New Jersey, met October 27, at Irvington, and elected the following officers: President, Herbert C. Koffler; vice-president, G. F. Adelhelm, and secretary-treasurer, Warren Schuch, of La Barre & Schuch, 97 Lenox avenue, East Orange, N. J.

The organization meets once a month, holding a business meeting followed by refreshments.

SOD-CUTTING MACHINE.

The first motor-driven sod cutter in the United States, after undergoing preliminary tests earlier this autumn, at Cleveland under the direction of E. C. Gledhill, president of the Gledhill Road Machinery Co., Galion, O., will be ready for production by spring.

The machine travels at the rate of one-half mile per hour, cutting a 24-inch width of sod to any depth from one-half inch to three inches by means of an oscillating Pittman bar and circular knives on the sides.

The machine is easily operated and cuts sod at the rate of 500 square yards an hour. Best results are obtained from the shallow half-inch depth because of lighter hauling weight and better knitting qualities with prepared ground.

After the sod is cut by the machine, it is ready for rolling and distribution.

Mr. Gledhill also is perfecting a combination bulldozer and earth-mover for preparation of soil before laying the sod.

CORNUS RACEMOSA.

The gray dogwood has in the past been listed in most nursery catalogues and many other publications as *Cornus paniculata*. With the amendments and adoption of the International Rules of Botanical Nomenclature, the name *Cornus racemosa* can now be considered correct, and it is so listed in Rehder's "Manual of Cultivated Trees and Shrubs," published in 1940.

The gray dogwood is a large upright, spreading shrub, that may reach a height of fifteen feet or more. While young it is often quite narrow and upright, but at maturity, because of its tendency to spread by underground stems, it frequently becomes a dense mass as wide as, or wider than, it is high. The twigs are slender and the pith color is white or light brown, a characteristic that can be used in its identification.

Cornus racemosa is hardy except in the most northern limits of the United States. It is native from Maine to Ontario and Minnesota, south to Georgia and Nebraska. The leaves are smaller than those of most of the shrubby dogwoods, usually about two to four inches long and narrow elliptic or lanceolate in outline. The fall foliage color is a beautiful reddish-purple.

The gray dogwood is especially attractive when its white flowers appear in June. The white fruits ripen in September and are showy, attached to red pedicels. These fruit stems remain attached to the plant and attractive after the fruits fall. The fruits are frequently taken by birds.

This attractive and useful dogwood does well in almost any type of soil that contains sufficient moisture, and it can be planted in either sun or shade. Propagation can be accomplished by seeds or softwood or hardwood cuttings. It is usually free from any serious insects or diseases.

Because of its tendency to spread, it makes a fine shrub for mass planting on banks and for roadside planting. It also finds its use in refined lawn groups and low screen plantings and has been satisfactory as a hedge. This plant is worth using extensively in landscape plantings. L. C. C.

UNDER the firm name of Casa Loma Nursery, Mrs. C. F. Clampitt, Bakersfield, Cal., has opened for business.

WHOLESALE PRICE LIST OF FLOWERING APPLES

The trees offered herewith comprise a collection of the choicest forms gathered from many sources, mostly Asiatic varieties which are not susceptible to cedar-apple rust.

All items are tied in bundles of ten of a variety and size, and orders must call for multiples of ten of a variety. Price quoted applies on lots of ten or more.

Stock offered is grafted on apple, is twice transplanted and has been growing in field rows for two years. This stock is not intended for use in landscape work, but is heavy, high-grade lining out material.

Prices

12 to 18 inches.....	\$10.00 per 100	2 to 3 feet.....	\$15.00 per 100
18 to 24 inches.....	12.00 per 100	3 to 4 feet.....	20.00 per 100

Quantities and sizes as shown in these columns

	12 to 18 ins.	18 to 24 ins.	2 to 3 ft.	3 to 4 ft.
Adstringens	70	.....	150	70
Arnoldiana	80	.....	230	180
Baccata	100	120	190	80
Baccata cerasifera	120	.....	60	.....
Baccata Jackii	40	.....	70	40
Brevipes	10	70	50	.....
Cashmere	60	.....	310	310
Dawsoniana	40	30	.....	.....
Dolga	130	.....	310	230
Ellwangeriana	20	.....	40	20
Flexilis	10	40	40	.....
Floribunda	.....	160	450	400
Floribunda atrosanguinea	100	110	280	.....
Floribunda purpurea	170	.....	590	200
Gibbs Golden Gage	.....	30	40	90
Halliana Parkmanii	50	.....	90	.....
Hartwigii	50	.....	60	.....
Hopa	50	.....	270	360
Kansuensis	30	.....	80	.....
Micromalus	20	50	110	.....
Niedzwetzkyana	540	110	380	130
Orthocarpa	60	.....	90	.....
Prunifolia	50	80	190	70
Prunifolia costata	.....	130	140	10
Prunifolia Rinki	200	.....	450	340
Prunifolia xanthocarpa	.....	60	60	.....
Pumila paradisiaca ruberrima	110	.....	140	80
Purpurea aldenhamensis	180	.....	570	150
Purpurea Eleyi	380	.....	890	610
Robusta	20	.....	80	40
Robusta Joan	.....	10	20	.....
Robusta persicifolia	120	80	.....	.....
Robusta sublobata	50	40	10	.....
Sargentii	120	40	.....	.....
Scheideckeri	150	.....	110	.....
Sieboldii	.....	200	220	.....
Sieboldii arborens	240	.....	260	170
Sieboldii calocarpa	120	.....	170	30
Sikkimensis	60	.....	100	.....
Soulardii	.....	80	70	.....
Spectabilis Riversii	20	70	50	.....
Theifera	.....	110	120	.....
Theifera rosea	20	20	.....	.....
Zumi	60	.....	150	290
Zumi calocarpa	80	.....	270	120

Orders may be placed now and stock will be held for spring delivery.

D. HILL NURSERY COMPANY
DUNDEE, ILLINOIS

Kew Gardens Bombed

*War Damage Done at England's Famous Royal Botanic Garden
Reported in Letter Recently Received from Official of Institution*

Among nurserymen in this country are a number of graduates of the Royal Botanic Gardens, at Kew, England, while still others have visited the famous institution. So familiar is its name to all that there will be keen interest in the following account of the damage done by bombs there, as described by a well known official of the institution in the following letter, written November 4 in London, to a correspondent in this country, who has thoughtfully forwarded a copy to the editor:

"It is so long since I have heard anything from you, or you from me, that I know you will be grieved to hear how greatly Kew has suffered from enemy action.

"Several high explosive bombs have dropped in the gardens, as well as oil bombs and incendiary ones. Until recently we had not suffered very much damage, as the big bombs which fell were in the far parts of the gardens. One fell at the north end of the rhododendron dell, where it only rooted up a few ordinary rhododendrons and, of course, made a huge crater. Two others fell in grassy spots in the Queens Cottage grounds and made craters some twenty-five feet across, but did no damage otherwise, and the oil and incendiary bombs fell on lawns in various places and did no particular harm. A few days later some six smaller bombs were dropped near the Isleworth gate and some were also dropped in the Sion House meadows across the river. These damaged a good many trees. Some three weeks ago, however, a bomb fell on a house in the Kew road, close to the Cumberland gate, and much glass was broken in Museum No. 1 and in the orchid houses, the Sherman-Hoyt house and other places. A bomb which fell on the other side of the river, at Brentford, caused a good deal of damage to the herbarium, as the blast broke about 100 panes of glass in the middle wing, and a bomb which fell at the foot of Kew bridge, on our side, broke much glass in Museum No. 4 and in most of our houses along the Kew road.

"Our worst damage unfortunately

took place about a week ago, when a bomb fell in the early morning in front of a house in the Kew road, near the North gallery. The blast from this blew down some sixty yards of our boundary wall and did much damage to the North gallery and the two adjoining houses in the gardens. The pictures in the North gallery, however, had all been removed some time previously to a place of safety. The blast from this bomb also smashed thousands of panes of glass on the east side of the temperate house, and I fear it will be impossible to repair the damage, and should there be a bad winter, no doubt many of the fine specimens will perish. About the same time another bomb fell between the palm house and the azalea garden and destroyed a number of interesting trees in the ash collection, and the blast smashed many hundred panes of glass in the palm house itself and in the water lily house. Here again it will be difficult to effect repairs and save some of our unique plants, but I am hoping that we shall be able to make sound the southern end of the palm house, where magnificent cycad specimens are housed. On the evening of the same day, three bombs fell again near the temperate house, one in the heath

garden to the west of King William's Temple, where many interesting Chinese rhododendrons, arbutus and other plants were smashed to atoms, and the blast from this bomb broke much more glass in the northern end of the temperature house. An oil bomb fell close to the temperate house, but as this smashed a water main no particular damage was done. The third bomb was a delayed action one, and this I am glad to say has been safely removed before it exploded. It was found to be some sixteen feet down and was about 500 pounds in weight. Since then I am glad to say we have not suffered, though several bombs have fallen to the south of us in the Old Deer park.

"I am hoping it may be possible to find accommodation for some of our rarer plants from the palm house and temperate house in some place of safety. We are also taking steps to move some of the herbarium specimens, but with the indiscriminate bombing which is taking place, it is difficult to find any place which may be safe from enemy attack.

"I know that you and other kind friends in America will be much distressed to hear how Kew has suffered from enemy action, and I much hope that we may be left in peace and that we shall suffer no further damage, as there is no sort of military objective anywhere in this part of the world.

"Your sympathy and help are much appreciated by all of us."

Understocks for Grafting

We offer and will gladly quote attractive prices on the following varieties of understock for grafting purposes:

ACER DASYCARPUM and SACCHARUM, ÆSCULUS OCTANDRA, ALTHÆA ROSEA, BETULA NIGRA, BETULA LENTA, CARPINUS CAROLINIANA, CORNUS FLORIDA, CORNUS STOLONIFERA, DIOSPYROS VIRGINIANA, FAGUS FERRUGINEA, HAMAMELIS VIRGINIANA, ILEX OPACA, JUGLANS CINEREA and NIGRA, JUNIPERUS VIRGINIANA, LIGUSTRUM AMURENSE, OBTUSIFOLIUM and OVALIFOLIUM, MAGNOLIA MACROPHYLLA and TRIPETALA, MORUS ALBA TATARICA and ULMUS AMERICANA and PUMILA.

Also our usual line of **Evergreens**, **Hardy Flowering Shrubs**, **Shade and Ornamental Trees**, and **Vines and Creepers**, in both finished and lining-out stock. Also Hardwood Cuttings and Fruit Trees.

Ask for a copy of our wholesale trade list. Send your want list for special quotations.

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Our Upright Yews have been transplanted four times and sheared annually into columnar shape required in a good foundation planting.

	Each	10
3 to 3 1/2 ft.	\$3.00	\$27.00
3 1/2 to 4 ft.	3.75	35.00
4 to 4 1/2 ft.	4.50	40.00
4 1/2 to 5 ft.	5.00	45.00
5 to 5 1/2 ft.	7.00	60.00
6 to 7 ft.	9.00	75.00

Capitata Cubes and Globes

18x18 ins., \$1.75; 21x21 ins., \$2.00; 24x24 ins., \$2.25 each.

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3 to 4 ft., 35c

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Lining-out Evergreens

	25	100	1000
Jap. Spreading Yew	\$2.00	\$6.50	\$60.00
3 to 4 ins., X.....	2.50	7.50	70.00
4 to 6 ins., X.....	3.00	10.00	90.00
6 to 8 ins., X.....			
Jap. Upright Yew			
4 to 6 ins., X.....	2.50	7.50	70.00
Ret. Lutescens (Golden Globe)....	1.75	6.50	....
Jap. Barbera. 2-yr. seedlings, heavy			15.00
12,000 Lombardy Poplars, 4 to 8 ft.			
Special prices on request.			

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OBITUARY.

Andrew O. Anderson.

Andrew O. Anderson, head of the Anderson Nursery Co., Devils Lake, N. D., was killed November 17 by the accidental discharge of a shotgun when he was shooting rabbits.

Born at Hillsboro in 1888, Mr. Anderson had lived for many years at Devils Lake. Survivors include his widow, a daughter, five sons, four brothers and six sisters.

Joseph Valentino.

The funeral of Joseph Valentino, Wappingers Falls, N. Y., was held November 23. He had been associated with the Volino Nursery, at Poughkeepsie, until last year. He was 59 years old. Survivors include his widow, six daughters and four sons.

Orland J. Manahan.

Orland J. Manahan, aged 25, son of Mr. and Mrs. B. J. Manahan, of the Pontiac Nursery Co., Romeo, Mich., died in Bishop hospital, at Almont, November 29. He was a graduate of Columbia Military School and Michigan State College. In addition to his parents, he leaves a brother, Richard; widow, Eugenia E., and daughter, Sharon Annette. Burial was at White Chapel memorial park, December 2.

Karl Otto Hoffer.

Karl Otto Hoffer, 32, who was in the nursery business with his father, in the New Market Perennial Gardens, New Market, N. J., died November 30, at the Muhlenberg hospital, Plainfield, N. J. Surviving are his parents, Mr. and Mrs. August Hoffer; his widow, Mrs. Margaret L. Hoffer; three sons, Karl F., Richard A. and Paul D. Hoffer; two sisters, Mrs. Adolph Fischer, Easton, Pa., and Mrs. John Borgstrum, Elmhurst, L. I., and a brother, Eric M. Hoffer, Trenton, N. J. B. J.

THE Eli D. Ray Nursery was opened at Third street and Fifteenth avenue, Yuma, Ariz., recently.

AMONG the first nurserymen called into service in the federal preparedness program is James I. E. Ilgenfritz, of I. E. Ilgenfritz' Sons Co., Monroe, Mich. He is lieutenant in the 107th observation squad and is at Camp Beauregard, Alexandria, La.

SEEDS

1940 CROP

NOW READY FOR DELIVERY

Prices F. O. B. New York

	1 lb.	1 lb.
Abies balsamea, Balsam Fir.....	\$0.55	\$2.00
" <i>concolor</i> , White Fir (Colo.) .....	.30	1.00
" <i>fraseri</i> , Fraser Fir.....	1.30	4.25
Acer negundo, Box Elder.....	.25	.70
" <i>saccharum</i> , Sugar Maple, northern seed .....	.45	1.65
Amelanchier canadensis, Downy Shadblow, d.b. ....	.85	2.35
Cercis canadensis, American Red- bud .....	.85	1.85
Chionanthus virginicus, White Fringetree, c.s. ....	.65	2.25
Crataegus mollis, Downy Haw- thorn, c.s. ....	.50	1.75
Cupressus arizonica, Arizona Cypress " <i>macrocarpa</i> , Monterey Cypress .....	.90	3.25
Eucalyptus—varieties on request	.85	3.00
Fraxinus americana, White Ash .....	.25	.75
" <i>lanceolata</i> , Green Ash .....	.25	.75
Hicoria pecan, (Hardy Northern Naturals) .....	....	.45
Ilex verticillata, Common Winter- berry, d.b. ....	.35	1.25
Juniperus horizontalis, Creeping Juniper, d.b. ....	.65	2.25
Lonicera tatarica, Tatarian Honey- suckle, c.s.	1.20	4.25
Magnolia glauca, Sweetbay, c.s. " <i>grandiflora</i> , Southern Mag- nolia .....	.70	2.50
" <i>kobus</i> , Japanese Magnolia .....	.50	1.75
Mahonia aquifolium, Oregon Hol- lygrape, c.s.	1.10	4.00
Malus coronaria, Wild Sweet Crab, c.s.	1.25	4.50
Morus alba tatarica, Russian Mul- berry, c.s. ....	.45	1.60
Picea engelmanni, Engelmann Spruce .....	.75	2.00
" <i>glauca</i> , Alberta Black Hills Spruce	1.55	5.50
" <i>pungens</i> , Colorado Spruce .....	.65	2.00
Pinus resinosa, Red Pine	1.55	5.50
" <i>strobus</i> , White Pine .....	.50	1.75
Plumbago capensis, blue, per 1000 seeds	\$3.30	
" <i>capensis</i> , white, per 1000 seeds	\$4.00	
Prunus armeniaca <i>mandshurica</i> , Manchurian Apricot, c.s. ....	.25	.70
" <i>avium</i> , Mazzard, c.s. ....	.35	1.25
" <i>cerasifera</i> , Myrobalan Plum, c.s. ....	.35	1.25
" <i>incisa</i> , Mame Cherry (Mame- Zakura, c.s. ....	.50	1.80
" <i>lannesiana</i> , Hitoye Cherry, c.s. ....	.35	1.20
" <i>mahaleb</i> , Mahaleb Cherry, c.s. " <i>peninsularis</i> , Pin Cherry, c.s. ....	.70	2.50
" <i>pumila</i> , c.s. ....	.50	1.80
" <i>psilostachys</i> , c.s. ....	.65	2.25
" <i>serulata</i> , Oriental Cherry, c.s. ....	.40	1.40
" <i>serulata</i> , sachalinensis, Ezon- Yama Cherry, c.s. ....	.45	1.60
" <i>subhirtella</i> pendula, Shidare- Higan Weeping Cherry, c.s. ....	.70	2.50
" <i>tomentosa</i> , Nanking Cherry, c.s. ....	.70	2.50
" <i>triloba</i> , Flowering Plum, c.s. ....	.35	1.20
" <i>virginiana</i> , Common Choke- cherry, c.s. ....	.55	1.85
" <i>yedoensis</i> , Yedo Cherry, c.s. ....	.50	1.80
Pseudotsuga douglasii glauca, Blue Douglas Fir (Colo.) .....	.75	2.40
Rhamnus cathartica, Common Buckthorn, d.b. ....	.35	1.25
Rhus canadensis, Fragrant Sumac, d.b. ....	.35	1.25
Rosa blanda, Meadow Rose, dried hips .....	.40	1.40
Sequoia gigantea, Giant Sequoia	2.10	7.50
Shepherdia argentea, Silver Buff- alo Berry, d.b. ....	.55	1.85
Sorbus americana, American Mountain Ash, d.b. ....	.40	1.35
Stewartia pentagona, Mountain Stewartia, c.s.	1.10	4.00
Thuja orientalis <i>aurea</i> , Golden Oriental Arborvitae .....	.50	1.75
Tilia americana, American Linden .....	.25	.85
Tsuga canadensis, Canada Hemlock " <i>caroliniana</i> , Carolina Hem- lock	1.65	5.85
Viburnum acerifolium, Mapleleaf Viburnum, d.b.35	1.25
" <i>dentatum</i> , Arrowwood, d.b.40	1.40
" <i>lantana</i> , Wayfaring Tree, d.b.50	1.80

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Texans Fight Peach Ban

Funds Pledged at Austin Meeting to Enjoin States Quarantining Against Texas Trees for Peach Mosaic

J. M. Del Curto, chief of horticultural inspection and quarantines of the Texas department of agriculture, called a meeting for the purpose of discussing the peach mosaic quarantine situation, at Austin, December 5, in the office of J. E. McDonald, commissioner of agriculture. The following were present: J. E. McDonald, Walter T. McKay, J. M. Del Curto and J. M. Ramsey, Austin; Jesse D. Breedlove, A. L. Thompson, J. A. Bostick, Homer W. Eikner, Tyler; Edward L. Baker, Fort Worth; Ray Verhalen and L. E. Ihrke, Scottsville; Lee Mosty, Center Point, and Harvey Mosty, Kerrville.

Mr. Del Curto made a report on the peach mosaic quarantines, giving complete information on what steps had been taken by his department and also by the federal quarantine officials. He reviewed the work that had been done, beginning with the phony peach disease hearing at Memphis, Tenn., eight years ago. Then came the beginning of the peach mosaic, the first hearing having been held at Albuquerque, N. M., in 1936, with continued hearings from then to the present time. Mr. Del Curto stated that his department had complied with all the rules, regulations and requirements placed by the federal officials and was continuing to do so, the consequences of which had placed heavy burdens and hardships on several Texas nurserymen and caused heavy financial losses by destruction of trees. This was done in order to keep trade channels open with other states. In spite of these precautions, Mr. Del Curto stated that several states had placed quarantines on all peach stock in Texas, and some states were contemplating canceling permits of all Texas nurserymen shipping into their states.

J. M. Ramsey then took the chair. A motion was made by J. A. Bostick and seconded by Jesse Breedlove that Texas nurserymen employ a competent attorney and go into federal court to seek an injunction against any state or states which place a quarantine against peach stock being shipped out of Texas into such state

or states, except in such cases where said peach stock is under quarantine by Texas officials. The vote was unanimous, and all present pledged contributions to a fund to bear the expenses of such court procedure. J. M. Ramsey and A. L. Thompson were delegated to contact an attorney and engage his services to proceed at once.

A resolution was passed in favor of having the peach mosaic eradication work continued by the federal bureau of quarantines and also of having the peach mosaic quarantines placed under the control of the federal bureau and taken out of the hands of state quarantine officials. It was voted to seek the aid of congressmen to appropriate funds to reimburse nurserymen for stock which was found clear of disease, but which was ordered destroyed for the protection of the public. The aid of the American Association of Nurserymen will be solicited by Texas nurserymen through Secretary Richard P. White to get this placed before the proper officials in Washington.

A vote of thanks and appreciation by Texas nurserymen was extended

to the department of agriculture, J. E. McDonald and his officials, for their untiring efforts and efficient work in endeavoring to keep the channels of trade open.

A resolution was passed pledging the aid and assistance of Texas nurserymen against any change of administration or transfer of any authority or power in our Texas department of agriculture. It is believed that any change would be highly detrimental to public good and greatly retard the efficiency and service rendered by this highly essential department of our state government.

Harvey Mosty, Sec'y,
Texas Assn. of Nurserymen.

BAN FOR PEACH MOSAIC.

The first quarantine decree under a law enacted thirty-six years ago was announced a few days ago by the Rhode Island state department of agriculture, which banned importation of the woody parts of peach, nectarine and plum plants from certain parts of the United States. In an effort to prevent the introduction in Rhode Island of peach mosaic, the quarantine was placed under the nursery law which was passed by the Rhode Island legislature in 1904. The quarantine applies to the entire states of Arizona and Texas and certain counties in California, Colorado, New Mexico, Oklahoma and Utah.

Northern-grown SEEDS

The following seeds have been collected by us at the proper time, carefully cleaned and stored or stratified in the proper way at the right temperature. They have been treated in the same way as we treat the seeds we collect for our own use. The methods we use are those which years of experimenting have shown will cause a high percentage of germination at the proper time. All seeds are cleaned and no drying is allowed to occur, if this has been found to retard germination.

The prices quoted cannot be compared with prices of dried berries or flower clusters.

	1/4 lb.	1 lb.	1/4 lb.	1 lb.
<i>Acer platanoides</i>	\$0.55	\$1.80		
<i>Amorpha canescens</i> (pods)	.65	2.25		
<i>Berberis Thunbergii</i>	.90	3.00		
<i>Berberis vulgaris</i>	.90	3.00		
<i>Betula populifolia</i>	.75	—		
<i>Carpinus caroliniana</i>	1.00	—		
<i>Celastrus orbiculatus</i>	1.00	3.30		
<i>Chionanthus virginicus</i>	.90	3.00		
<i>Cotoneaster divaricata</i>	1.25	4.50		
<i>Cotoneaster horizontalis</i>	1.00	—		
<i>Cotoneaster lucidus</i>	1.10	—		
<i>Elaeagnus umbellata</i>	.80	—		
<i>Elyagnus yedoensis</i>	2.00	—		
<i>Fothergilla monticola</i>	5.00	—		
<i>Hamamelis virginiana</i>		\$2.00	\$4.00	
<i>Ilex glabra</i> , oz.	.65	2.25		
<i>Ilex verticillata</i>			1.50	5.00
<i>Juniperus virginiana</i>			2.00	6.00
<i>Myrica caroliniana</i>			2.00	6.00
<i>Pieris floribunda</i> , oz.	\$1.00	3.00	10.00	
<i>Rhamnus cathartica</i>			.90	—
<i>Rhamnus davurica</i>			.90	3.00
<i>Rhodotypos kerrioides</i>			.75	2.75
<i>Rhus canadensis</i>			1.20	4.00
<i>Syringa japonica</i> , oz.	\$1.00	3.00	1.20	4.00
<i>Viburnum cassinoides</i>			2.00	6.00
<i>Viburnum dentatum</i>			1.50	4.50
<i>Viburnum Lentago</i>			2.00	6.00

PERENNIALS

	1/4 oz.	1 oz.	1/4 oz.	1 oz.
<i>Allium Schoenoprasum</i>	\$0.30	\$1.00		
<i>Alyssum argenteum</i>	.50	1.60		
<i>Alyssum rostratum</i>	.50	1.60		
<i>Anchusa I. Dropmore</i>	.10	.30		
<i>Asclepias tuberosa</i>	.70	2.40		
<i>Baptisia australis</i>			.40	1.60
<i>Centaura macrocephala</i>	.40	1.20		
<i>Ceratium tomentosum</i>	.40	1.40		
<i>Delphinium Gold Medal</i>			.40	1.60
<i>Hybrids</i>	.40	1.40		
<i>Dianthus caryophyllus</i>	.35	1.20		
<i>Dianthus plumarius semper-fluens</i>			.30	1.00
<i>Echinops sphaerocephalus</i>				\$0.40
<i>Liatris pycnostachya</i>			.80	2.40
<i>Lupinus Downer's Hybrids</i>			.15	.50
<i>Polemonium ceruleum</i>			.15	.50
<i>Salvia argentea</i>			.20	.60
<i>Salvia pratensis</i>			.50	1.60
<i>Stachys lanata</i>			.25	.80
<i>Salvia azurea grandiflora</i>			.55	1.80
<i>Thermopsis caroliniana</i>			.60	2.00
<i>Liatris spicata</i>			.60	2.00
<i>Helliptera s. sinuiflora</i>			.55	1.80

We have a great many varieties of seeds not listed. Write for prices.

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One-year Trees. Almost all are whips. Two-year Trees. Fairly well branched.

Baldwin—New	Blight-proof	(3c higher each grade)
Clapp Favorite	Howell	Patton
Duchesse	Kieffer	Pineapple
Flemish Beauty	Le Conte	Seckel
Garber	Lincoln	Sugar

All trees are nice. Good heavy caliper each grade.

	Per 10	Per 100	Per 1000
2 to 3-ft. Whips..	\$1.00	\$ 7.50	\$ 60.00
3 to 4-ft. Whips..	1.25	10.00	80.00
4 to 5-ft. Whips..	1.50	13.00	125.00
5 to 6-ft. Whips..	2.25	20.00	175.00
6 to 7-ft. Whips..	3.00	27.00	225.00

In 6 to 7-foot trees we have: Baldwin, Bartlett, Flemish Beauty, Garber, Lincoln, Pineapple.

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	Per 1000
Althaea Rosea, adaga, 6 to 12 ins.	\$5.00
Althaea Rosea, adaga, 12 to 18 ins.	8.00
Azalea Calendulacea, 12 to 18 ins.	40.00
Aronia Arbutifolia, 18 to 24 ins..	8.00
Corylus Americana, 12 to 18 ins..	10.00
Corylus Americana, 18 to 24 ins..	15.00
Erythronium Americanum, 18 to 24 ins.	8.00
Hamamelis Virginiana, 4 to 6 ins.	25.00
Hamamelis Virginiana, 6 to 12 ins.	35.00
Rhus Copallina, 12 to 18 ins..	8.00
Rhus Copallina, 18 to 24 ins..	10.00
Rhus Copallina, 2 to 3 ft.	15.00
Robinia Hispida, 12 to 18 ins..	8.00
Robinia Hispida, 18 to 24 ins..	12.00
Symplocarpus Vulgaris, 12 to 18 ins..	8.00
Symplocarpus Vulgaris, 18 to 24 ins..	10.00
Fagus Americana, 6 to 12 ins..	5.00
Fraxinus Lanceolata, 6 to 12 ins.	5.00
Fraxinus Lanceolata, 12 to 18 ins.	8.00
Liriodendron Tulipifera, 4 to 6 ins.	4.00
Liriodendron Tulipifera, 6 to 12 ins.	6.00
Platanus Occidentalis, Plane	
Tree, 6 to 12 ins.	5.00
Platanus Occidentalis, Plane	
Tree, 12 to 18 ins.	9.00

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and Japanese Flowering Cherries
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and finished stock.

THE COTTAGE GARDENS
N. L. W. Kriek Lansing, Mich.

Although the blister rust quarantine was put in effect in 1917, it was done under a special act of the legislature and not under the nursery act.

COLORADO QUARANTINES.

Effective December 15, a quarantine has been established by the state of Colorado against the Oriental fruit moth "and all varieties and species including the flowering forms of peach, nectarine, almond, apricot, plum, cherry, chokecherry, quince, pear, apple and haw or hawthorn (*crataegus*, sp.), trees or plants or parts thereof." Budwood or scions from the infested area may be shipped into Colorado in limited amounts and only during the dormant period under permit. Bare-root trees or plants will be admitted only during the dormant period if fumigated with methyl bromide according to the specifications of the order. The quarantined area includes all states east of the Mississippi except Maine and Wisconsin, as well as five states west of the Mississippi—Arkansas, Kansas, Louisiana, Missouri and Texas.

Under the alfalfa weevil quarantine, which was effective April 18, 1940, nursery stock packed in tule may be shipped into Colorado only if fumigated with cyanide of sodium or cyanide of potassium.

MONTANA PROPOSAL

Sealed proposals for the improvement of the roadside adjacent to the wye at the junction of routes 2 and 11 in Livingston, Mont., will be received by the state highway commission, Helena, Mont., until December 20. The stock wanted consists of 2,170 lineal feet of caragana hedge, evergreens, ash, elm and other trees, as well as grass seed, topsoil, grading and preparing the planting areas, commercial fertilizer, concrete curb and sprinkler system.

THE proceedings of the sixteenth National Shade Tree Conference, held at Detroit, August 27 to 30, just issued, contains 180 pages of talks and discussions of up-to-date information for those who move, repair and care for ornamental trees. Dr. Paul E. Tilford, of Ohio agricultural experiment station, Wooster, is the editor.

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For Winter Planting or
Stratification—

PROMPT DELIVERY

	1/4 lb.	1 lb.
Abies arizonica	\$1.75	\$6.00
balsamea	.50	1.75
Juniperus virginiana, clean		
seed from Northern, Northwestern and South- ern sources (specify your choice)	.65	2.25
Larix europaea	.80	3.00
Picea excelsa, domestic	1.10	3.75
Pinus ponderosa scopulorum		
Black Hills	.75	2.25
redwood, 14 to 16 ft. top	1.50	5.00
Strobus, Lake States	.45	1.50
Strobus, New York State	.50	1.75
Thuja occidentalis	.75	3.00
orientalis, domestic	.40	1.50
orientalis aurea nana	.80	2.75
orientalis conspicua	.75	2.50
orientalis pyramidalis	.75	2.50
Tsuga canadensis, Northern		
only		
caroliniana, New England	1.50	5.00
collected	1.75	6.00
Amelanchier canadensis, true		
specie clean	2.25	8.00
grandiflora, clean	2.25	8.00
laevigata, clean	2.25	8.00
oblongifolia, true	2.25	8.00
Arctostaphylos Uva-ursi, clean	1.10	3.50
Berberis Thunbergii atropurpurea, clean	3.50	12.00
Camellia japonica, fresh do- mestic	.60	2.00
Carpinus Betulus, domestic	.45	1.50
caroliniana	.35	1.00
japonica	.75	2.50
laxiflora	.75	2.50
Cornus florida, Northern		
clean	.35	1.00
Crataegus Arnoldiana, clean	.65	2.25
coerulea, clean	.50	1.50
cordata, clean	.75	2.50
nitida, clean	1.20	4.00
Oxyacantha (monogyna)	.45	1.50
prunifolia	.60	2.25
punctata	.45	1.50
Juglans cinerea, New Eng- land	.25	2.50
Malus theifera	.75	2.50
Prunus instititia, Damson		
Plum	.60	2.00
Prunus Mahaleb	.30	1.35
Quercus palustris (cold stor- age), 10 lbs.	\$2.00	
Phellon (cold storage, 10		
lbs.)	.25	
Rosa rugosa, domestic, clean	.60	2.00
rubra alba, domestic		
clean	1.20	4.00
Syringa amurensis	1.20	4.00
japonica	2.25	7.50
Josikaea	1.20	4.00
villosa, clean	1.35	4.50
vulgaris, clean	.70	2.25
Viburnum americanum, clean	1.00	3.50
Opulus, clean	1.00	3.50
Azalea calendulacea	\$0.50	\$1.75
mollis, choice do- mestic	1.00	3.00
rosea	1.50	4.50
viscosa	.60	2.00
Kalmia latifolia, North- ern strain	.60	2.00
Rhododendron carolinianum, New England		
seed	.50	1.50
catawbiense, New		
England seed	.35	1.00
maximum	.35	1.00
maximum, select,		
large leaf, large		
flowers	.65	2.00

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HORTICULTURIST

P. O. Box 131, Jamaica Plain, Mass.

This Business of Ours

*Reflections on the Progress and Problems
of the Nurseryman* — By Ernest Hemming

THE FUTURE.

It is assumed that the nursery business is somewhat of a luxury; at least, it is usually classified as such when compared with those industries that have to do with the essentials of life or a defense program, when, in reality, horticulture in most of its branches is one of the essentials of civilization. It may be that, for the moment, the production of shade and ornamental plants is not so important. This can hardly be said of fruits and other utilitarian products of nurseries.

The nurseryman who listens to the radio and reads his newspaper cannot help beginning to wonder what the future holds in store for him. His business differs from nearly all others in that he has to look so far into the future. There is scarcely an item he produces that does not take from two to ten years to become marketable. In other words, he has to guess what the market will be for 2-inch shade trees, say, in 1947, and so on all down the list of items he grows.

The old-timers who were doing business during the first World war will recall how production was reduced to the minimum during the war; then they frantically went into production during the boom and produced a surplus for which there was no market during the depression.

Will this same cycle repeat itself with the present unheaval? More than likely it will, and few of us will adjust our business policy to meet the situation. It is true, there are many unknown quantities; some even go so far as to think the end of present civilization is at hand, while others think that the only effect on this country will be increased business.

The one thing we can be quite sure of is that nothing is static; that would simply mean decay. America is dynamic, and any change will be in the form of an expansion or progressive future. Maybe there will be a change in values. We shall look on money as currency rather than wealth. Which reminds me of a re-

mark made by the late W. W. Harper, of Andorra Nurseries: "I am a rich man, but my wealth is mostly in trees and plants, and I cannot eat them."

In the last analysis, there is a simple cure for all the mental disturbance caused by fear of the future, and that is faith. Faith in the government, even if your particular party is not in power. Faith in America, that is quite able to look after itself. Faith in the nursery business, as being one of the fundamental essentials of progress, and since the nursery turnover runs from two to ten years, it has a better chance of adjusting itself to changes and events than most businesses. E. H.

THE CROSS VINE.

Several years ago we planted a cross vine, *Bignonia capreolata*, to grow on an open trelliswork covering an outdoor terrace. It was a new vine to this section, and its growth for the first year or two was disappointing, but within five or six years it made a beautiful lacy canopy of year-around foliage. It covered an area of at least 300 square feet. The beautiful evergreen foliage is light green in summer and bronze-green in winter. The flowers, occurring in summer, are a yellow-red trumpet, as it is a member of the trumpet vine family.

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We hold the most comprehensive stock of ornamental woody plants of any commercial grower in the temperate regions of the world. Due to war conditions we must clear our stocks and grow food.

Please ask for our special export catalogue, which lists plants in sizes conforming with U. S. A. import regulations.

At these difficult times we look to the nurserymen of the U. S. A. for their support.

HILLIER & SONS, Nurserymen
WINCHESTER, ENGLAND

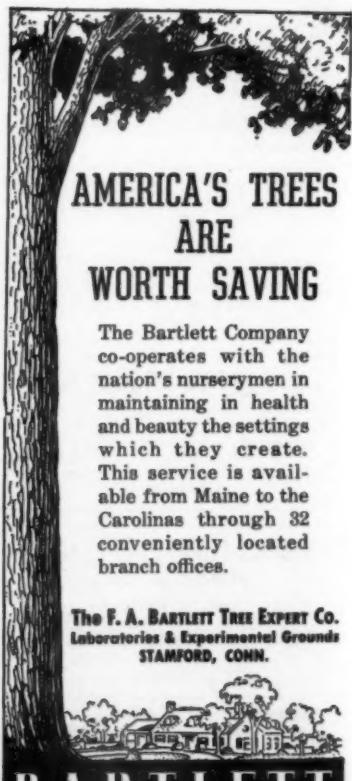
Since then we have planted this vine on decorative signposts, where its graceful habit of growth is shown at its best; also on garden walls, fences and house walls, for its curly tendrils stick to almost any surface with great tenacity.

This graceful vine can cover a wall with a delicate pattern as picturesque as any Boston ivy, yet its delicacy belies a sturdy vigor which enables it to grow to real heights and cover a 3-story house. It is a taprooted vine; hence its vigor and also its slowness to establish itself after transplanting.

This choice vine is perfectly hardy in Maryland, but would probably not prove satisfactory above the Mason and Dixon line. After all, a really sizable part of American horticulture is practiced below that line. Not so many southern catalogues list this beautiful vine, yet evergreen vines are scarce.

The name comes from a noticeable cross that is apparent when a transverse section of the stem is made.

This native vine is easily propagated, and I heartily commend it to your attention if you do not live too far north. E. S. H.



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The Bartlett Company co-operates with the nation's nurserymen in maintaining in health and beauty the settings which they create. This service is available from Maine to the Carolinas through 32 conveniently located branch offices.

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6 to 8 ins. B&B	\$75.00	\$650.00
8 to 10 ins. B&B	90.00	750.00
10 to 12 ins. B&B	125.00	1000.00
12 to 14 ins. B&B	150.00	1250.00

Ask for excellent assortment of named forcing Azaleas.

BRIDGETON, N. J. Write for catalogue.

SOUTHWESTERN NEWS.

Scott Wilmore, of the W. W. Wilmore Nursery, Denver, Colo., suffered a broken leg on Thanksgiving morning. It will be necessary for him to wear a cast which reaches the hip for eight or ten weeks, but in spite of this handicap he is taking care of his correspondence.

George Gurney, of the House of Gurney, Yankton, S. D., accompanied by Mrs. Gurney, is taking a vacation trip. Their destination is the Gulf of Mexico, and they are visiting friends in the trade along the way. Mr. Gurney reports that a heavy snow which covered South Dakota late in November brought much-needed moisture.

The chief executive of the state of Missouri, Lloyd C. Stark, has been reelected chairman of the board of directors of the Stark Bros. Nurseries & Orchards Co., Louisiana, Mo., to become effective as soon as he leaves the governor's office.

The Kansas State Horticultural Society met for the seventy-fourth time, December 4 to 6, at Kansas City. James Homer Sharp, Council Grove, who was elected president, is a fruit grower and son of a former president of the society. Other officers elected were: Vice-president, Herbert L. Drake, Bethel; treasurer, Fred Hasler, Halstead; secretary, George W. Kinkead, Topeka. Trustees chosen were Herman Theden, Bonner Springs; S. W. Decker, Manhattan, and W. R. Flanders, Ellsworth.

W. C. Salome, of the Mount Hope Nurseries, Mount Hope, Kan., has been seriously ill for several weeks with what is believed appendicitis.

R. S. Lake, of the Shenandoah Nurseries, Shenandoah, Ia., made a business trip to Alabama, where his company grows some stock, the fore part of December.

The Sarber Nursery, Topeka, Kan., is building a small greenhouse for propagating purposes. An attractive neon sign has been installed in front of the property on highway 10, and new landscaping of the premises is being planned for spring.

J. E. Conard and Mrs. Conard, Stigler, Okla., visited relatives at Kansas City, Mo., and Ottawa, Kan., recently. Mr. Conard reports that fall business was good and that the freeze in November apparently did little damage in his part of the country.

GRAFTED STOCK

From 2 1/4-in. Pots

Ready for delivery about
May 1, 1941

For southern or far western orders, stock can be shipped late February or early March.

You can save 10% on the price of your grafts, if you will place your order before January 1, 1941. Early orders are a help to us in making up our propagating list, and we are giving you the benefit of this by allowing this special discount.

	Per 100
Acer palmatum Ashi-Beni	\$8.50 \$30.00
Acer palmatum atropur-	
pureum	3.00 25.00
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Cedrus atlantica glauca	4.00 35.00
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Fagus sylvatica 'Overall'	3.00 25.00
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glauca	2.75 25.00
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variegata	2.75 25.00
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Picea pungens Moerheimii	2.75 25.00
Pinus Cembra	2.75 25.00
Quercus Robur fastigiata	4.00 35.00
Thuja occidentalis 'Douglasii'	
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A. Type	2.25 20.00
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Thuja occidentalis Rosenthalii	2.25 20.00
Thuja occidentalis Wareana	
(sibirica)	2.25 20.00
Thuja orientalis aurea nana	2.00 18.00
Thuja orientalis conspicua	2.00 18.00
Thuja orientalis elegansima	2.00 18.00
Taxus media Brownii	2.75 25.00
Taxus media Hatfieldii	2.75 25.00
Tsuga canadensis pendula	2.75 25.00

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Mountain View, New Jersey

Diseases of Trees

*Latest Findings on Various Infections of Trade Importance
Reported in Recent Research Studies — By Leo R. Tebon*

INK-SPOT OF POPLARS.

Weather conditions prevailing in the province of Quebec in 1936 favored a severe outbreak of a disease of poplars known as ink-spot and enabled René Pomerleau, forest pathologist of the Canadian laboratory of forest pathology, to undertake a detailed investigation of the disease.

Ink-spot is a disease of poplar leaves caused by a fungus known as *Sclerotinia bifrons*. On infected leaves thick, black, round or elongated spots develop and, on reaching a certain stage, fall from the leaves, leaving holes. Ink-spot has been known in the United States and Canada for many years, having first been described in 1890 and subsequently reported from New England states, New York, Wisconsin, Ontario, Utah, Wyoming, Colorado and Virginia. Its range is practically coextensive with the range of the aspen, *Populus tremuloides*, although apparently it prefers fairly cold climates. Besides aspen, it attacks the Lombardy and the Carolina poplars. *Populus grandidentata* appears immune, and it has been observed that in mixed stands of aspen and *grandidentata*, both in the Adirondack mountains and in Quebec, only aspen trees were infected.

Although usually not an important disease, weather conditions can be such as to favor its development to the extent that it becomes severely destructive. For example, in some localities M. Pomerleau observed that when the disease was at the height of its development it killed from fifty to seventy-five per cent of the foliage on trees. In some cases it caused almost complete defoliation and resulted in the death of young trees.

The black spots which develop on infected leaves are masses of fungus of the kind commonly called sclerotia. These masses, although not immediately capable of spreading the disease, develop a spore-producing body after they have lain on the soil and have overwintered normally under a snow cover. The spore-producing body, similar in many ways to that arising from brown-rot mummies of cherries

and plums, begins to discharge spores at about the time aspen leaves are unfolding or when they have expanded and reached full size. Spores are discharged forcibly, so as to be caught by air currents and carried to leaves which they can infect.

Experimental infection of aspen leaves showed that less than a month is required for the development of characteristic spots on leaves. In nature leaf lesions are completely formed by June 15, and in the next thirty days the sclerotia complete their development and begin to fall to the ground. Development of heavy and destructive infection appears, however, to be dependent on the occurrence of a combination of weather factors seldom encountered. Consequently it is only in particular years, or in a short period of years, that ink-spot can reach destruction proportions.

The above study has furnished no suggestion on control measures. Since young trees are often most severely damaged, occasional outbreaks might be costly in nurseries growing poplars. But, knowing the life history of the fungus responsible for ink-spot, we can suggest that application of the same sprays as are used for early season control of brown rot of prunus species should give a marked degree of protection from ink-spot damage.

TUPELO LEAFSPOT.

In a number of southeastern states a leafspot disease often attacks two of the American tupelos, *Nyssa sylvatica* and *Nyssa biflora*, in some regions causing more or less severe leaf damage. The leafspot, which ap-

pears in late summer, especially in August and September, is caused by a parasitic fungus known technically as *Phyllosticta Nyssae*. Like many other leafspot diseases of trees, the tupelo leafspot had until recently received little attention aside from the recognition by specialists in fungi of the fungus associated with it.

Because tupelos in Duke forest are severely affected by leafspot, the plant pathologist at Duke University, Frederick A. Wolf, undertook a study of the disease and has lately reported his results.

States in which the disease is known to occur are Alabama, Florida, Georgia, North and South Carolina, Virginia, West Virginia and Maryland. The recorded range of the disease is less extensive than the range of the tupelos subject to attack by it.

Commonly leafspot is most severe on small tupelos. This means, however, not that young trees are more susceptible than old trees, but, rather, that the foliage of small trees, being nearer the ground, is more easily reached by infective spores produced in old, decaying leaves on the ground.

The first sign of leaf infection is the presence of irregular, purplish blotches scattered over the upper leaf surface. As the season progresses, these blotches enlarge, becoming an inch or more wide, and the under surface of the leaf in blotched areas turns dark brown and appears as if dotted. As leaf spots grow older their surfaces change to an ashen color and the leaf area between spots becomes purplish scarlet—the characteristic autumn color of tupelo leaves.

The tiny dots on the under side of the leafspot spore-bearing structures which have caused the leafspot fungus to be classified as a *phyllosticta* are not of the kind capable of causing a spread of infection but, Wolf has found, produce cells in-

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ARTHUR DUMMETT

61 W. Grand Street. Mt. Vernon, N. Y.



distinguishable from spores, which act as fertilizing cells upon other less conspicuous fungus structures in the leaf. These latter structures, following their fertilization and the fall of infected leaves, develop a particular kind of spore, of the type known as an ascospore. The ascospores mature by late March or early April of the following spring and are carried by air currents from old leaves on the ground to new leaves on trees, which they infect. To the stage of the fungus developing in fallen leaves the name *Mycosphaerella nyssaecola* has been given.

Although in his report Wolf has not suggested control measures, knowledge of the classification of the fungus and of the new features of its life history recommends two procedures. It would seem that the application of a Bordeaux spray to tupelo trees in early spring, at about the time spores become mature in old leaves on the ground or as new leaves unfold, should give protection from infection. Also, such sanitary measures as the raking up and burning of fallen leaves and thorough spraying of the ground beneath trees with a fungicide should reduce considerably the infection hazard by killing large quantities of the infectious material on the ground.

L. R. T.

COURSE IN CAMOUFLAGE.

About 100 men have enrolled in a weekly lecture course of about four months' duration on modern camouflage technique at the State Institute of Agriculture, Farmingdale, N. Y. The enrollment includes, besides students of the institute, employees of a number of Long Island nurseries, including Bulk's Nurseries, Babylon; Joseph Fausner, Holbrook; Hart's Nurseries, Lynbrook, and Hicks' Nurseries, Westbury.

The project was established by Carl F. Wedell, of the institute staff, and is under the supervision of Captain Peter Rodyenko, commanding officer of the Fortieth battalion of engineers (camouflage).

The necessity for camouflage over wider areas than before, created by the operations of modern warfare, adds plant materials to the paints, nets and fabric used hitherto. Obviously, men familiar with moving and caring for plants will be more readily trained in this branch of the service.

NORWAY MAPLE WHIPS

5 to 6 ft. and 6 to 7 ft.

HYDRANGEA P. G. 1-yr. layers

\$4.00 per 100, \$32.50 per 1000.

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specimen trees

1½ to 4-in. cal.

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Tsuga canadensis, Abies balsamea, Picea rubra, Pinus Strobus, Acer rubrum and saccharum; Betula lenta, lutea, papyrifera and populifolia; Fagus americana, Fraxinus americana, Prunus pennsylvanica and serotina and many other trees and shrubs.

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Fruit Trees

C. H. BURR & CO., INC., Manchester, Conn.

Heard at Kansas School

SALES CONSCIOUS.

At the fourth annual one-day school for nurserymen at Kansas State College, reported in the preceding issue, Prof. C. K. Ward, of the department of agricultural economics and sociology of the college, speaking on the subject, "The Nurseryman Becomes Sales Conscious," said:

"Principles of selling are universal in application. Often we become so concerned about production that we neglect selling. We must sell advantageously to accomplish the purpose of an organized business.

"In order to sell, one must have a knowledge of the product, of the customer and certain definite points to aid in sales strategy.

"Your place of business is your reception room; so the same things desired in the home should be found in your store. Be clean, don't neglect your windows, have your store arranged for your customers' convenience and have a window display. These principles will aid selling. Don't mention price until advantages of your products have been stated. Then present it in a casual way.

"There are many different types of people, but all have some characteristics in common, such as pride in their homes and a love of nature. There is a continued relationship between the customer and the nurseryman that does not exist between the purchaser of a bottle of pop at a football game and the boy who sells it."

STOP RABBIT INJURY.

R. C. Johnson, Kansas state forester, speaking at the Kansas school in regard to rabbit control, said injury to trees and shrubs in the state had been serious for several years. Such damages are due to:

(1) Hunger — especially when snow covers the ground vegetation.
 (2) Need of tonic when carrying young—this is especially true for deer and is the reason why they attack foliage.

(3) Rodent characteristics — all have two large teeth and must have something hard to chew in order to shorten these teeth.

Mr. Johnson said that rabbits can be controlled by (1) reducing the

population by hunting and poisoning and (2) by using repellents. The five general methods for controlling rabbits are hunting, use of repellents, poisoning, fencing and wrapping of trees.

In discussing hunting Mr. Johnson stated that individual patrol morning and evening is better than drives. Poisoning often is opposed because of danger to other animals. Sometimes sportsmen say poison will kill game herds, but, according to zoological studies, strichnine will not. Poisoning is the cheapest means of controlling rabbits.

Some of the repellents are: (1) Sulphurized oils, (2) resin and alcohol, (3) cement and water, (4) liquid lime-sulphur plus glue.

CONTROL OF BINDWEED.

T. F. Yost, head of state bindweed control, who spoke on the bindweed problem at the Kansas nurserymen's school, stated that it was unlawful for any person to sell nursery stock containing bindweed. Some of the control measures for bindweed recommended by Mr. Yost are cultivation and the use of chemicals. Cultivation is the cheapest and best method for an area of one-half acre or more.

"Since the growth of the plant for the first eight days is made at the expense of the roots, cultivation must be done frequently. If the cultivation is deep, the work must be done at an interval of every two weeks."

When using chemicals Mr. Yost recommended the use of sodium chlorate. This must be used only on special occasions and must be used with caution, since it kills trees, especially evergreens. The amount to use is four pounds per square rod.

This amount is not a guaranteed kill, but usually is from seventy-five to ninety per cent effective.

Mr. Yost also mentioned during his talk four other weeds which must be eradicated. These are listed below with special notation:

- (1) Russian knapweed—same control as for bindweed.
- (2) Dogbane—has a large root system, therefore, difficult to control.
- (3) Swamp smartweed — has a larger root system than common smartweed.
- (4) Hoary cress — worse than bindweed in certain cases, and controlled by the use of ten pounds of sodium chlorate per square rod.

Mr. Yost also stated that since sodium chlorate affects the soil, many concerns are using table salt.

BROAD-LEAVED EVERGREENS.

J. J. Pinney, of the Willis Nursery Co., Ottawa, Kan., gave a talk on broad-leaved evergreens at the Kansas school. Some of those he recommended for Kansas are listed below with notes. Some of these are probably only semievergreen in parts of Kansas and others are evergreen only in protected locations. S. = shrubs; V. = vine; GC. = ground cover; P. = perennial; T. = tree.

Abelia grandiflora, glossy abelia. S.
 Berberis ilicifolia, holly-leaved barberry. S.
 Berberis mentorensis, Mentor barberry. S.
 Buxus sempervirens, common boxwood, many varieties. S. or T.
 Buxus sempervirens suffruticosa, dwarf boxwood. S.
 Cotoneaster divaricata, spreading cotoneaster S.
 Cotoneaster horizontalis, rock cotoneaster. S.
 Cotoneaster microphylla, rock spray. S.
 Daphne Cneorum, garland flower. S.
 Dianthus (some species), pinks and carnations. P.
 Evonymus patent, spreading evonymus. S. or V.

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Restock your fields with varieties sure to be in demand. Complete list now includes NATIVE TREES and SHRUBS . . . DECIDUOUS and CONIFEROUS ORNAMENTALS . . . many varieties of PERENNIALS.

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PEACH TREES, APPLE TREES, SOUR CHERRY TREES AND STANDARD PEAR TREES

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 Redbud, Green Ash, White Oak, Black Walnut, Butternut, Chestnut, Maple, Sassafras, Many varieties. Hall's Japanese Honeysuckle, transplanted. Small or car lots. Write for prices.
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Evonymus radicans, evergreen bittersweet or winter creeper. V. or GC.
Evonymus radicans acutus, sharpleaf winter creeper. GC.

Evonymus radicans argenteo-marginatus, silveredge winter creeper. V.
Evonymus radicans Carrierei, glossy winter creeper. S.

Evonymus radicans coloratus, redleaf winter creeper. V. or GC.

Evonymus radicans kewensis, baby winter creeper. V.

Evonymus radicans vegetus, bigleaf winter creeper. S. or V.

Hedera Helix, English ivy. V. or GC.
Hedera Helix baltica, small-leaf English ivy. V. or GC.

Helianthemum Chamæcistus, sun rose. P. or S.

Iberis gibraltarica, Gibraltar candytuft. P.
Iberis sempervirens, evergreen candytuft. P.

Ilex opaca, American holly. T.

Lavandula officinalis, true lavender. P.
Lavandula vera, sweet lavender. P.

Lonicera fragrantissima, fragrant or winter honeysuckle. S.

Lonicera Heckrottii, everblooming honeysuckle. V. or GC.

Lonicera Heckrottii Goldflame, Goldflame honeysuckle. V. or GC.

Lonicera japonica Halliana, Hall's honeysuckle. V. or GC.

Lonicera japonica chinensis, purple-leaf honeysuckle. V. or GC.

Mahonia Aquifolium, Oregon grape. S.
Mahonia repens, trailing mahonia. S. or GC.

Nandina domestica, nandina. S.
Pachysandra terminalis, evergreen spurge. GC.

Phlox subulata, moss phlox. P. or GC.
Pyracantha coccinea, scarlet fire thorn. S.

Pyracantha coccinea Lalandi, Laland's fire thorn. S.

Santolina Chamaecyparissus, lavender cotton. P.

Sedum stoloniferum, running stonecrop. P.

Teucrium Chamædrys, germander. P.

Thymus Serpyllum, mother-of-thyme. P. or GC.

Viburnum rhytidophyllum, leatherleaf viburnum. S.

Vinca major, bigleaf periwinkle or myrtle. GC.

Vinca minor common periwinkle or myrtle. GC.

Vinca minor alba, white-flowered myrtle. GC.

Vinca minor Bowles, variety. GC.

Yucca filamentosa, Adam's-needle. S. or P.

Yucca filamentosa variegata. S. or P.

KANSAS ELECTS OFFICERS.

At a short business session of the Kansas Association of Nurserymen held during the recent short course at Kansas State College, Charles Nelson, of the Prairie Gardens Co., McPherson, was advanced from vice-president to president. J. J. Pinney, of the Willis Nursery Co., Ottawa, was re-elected secretary-treasurer.

A TALK on rock garden construction will be given December 18 at the monthly meeting of the Horticultural Society of New York by Frederick Leibuscher, Essex Fells, N. J.

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HARDY SHRUBS, FOREST and SHADE TREE SEEDLINGS.

Specializing in
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Amoor River North Privet
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Cupidata, *Capitata*, *Hicksii*,
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PINK DOGWOODS

Heavy Budded Plants

4 to 5 ft.	XX B&B.....	\$2.50
5 to 6 ft.	XX B&B.....	3.50
6 to 8 ft.	XX B&B.....	4.50
8 to 10 ft.	XX B&B.....	6.00

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3 to 6 ins... \$5.00 9 to 12 ins... \$12.00

6 to 9 ins... \$9.00 12 to 18 ins... \$20.00

Ferns, plants and native orchids.

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AMERICAN ASSOCIATION OF NURSERYMEN

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636 SOUTHERN BLDG., WASHINGTON, D. C.

PRESIDENT'S ITINERARY.

Avery H. Steinmetz, president of the American Association of Nurserymen, will travel from Portland, Ore., next month to attend the various regional meetings in the middle west and east, held in conjunction with some of the principal state meetings during January.

He will leave Portland January 1 and first attend the convention of the Western Association of Nurserymen, at Kansas City, January 7 to 9. From there he will go to Chicago for a meeting of the A. A. N. executive committee called for January 10 at the Hotel La Salle. He will be in attendance at the meeting of the Illinois State Nurserymen's Association, at the same place, the following week. From there he will go to the meeting of the Michigan State Association of Nurserymen, at Jackson, January 21 to 23, with which will be held the central regional meeting.

The following week he will be present at the convention of the New Jersey Association of Nurserymen, with which is combined the eastern regional meeting, at Trenton, January 28 to 30.

Executive Secretary Richard P. White will attend all these meetings, and since various members of the executive committee of the national association will be present at one or another, the A. A. N. will be well represented in every section.

Regarding an important current activity of the A. A. N. at this time, President Steinmetz writes:

"The trade barriers situation is much in the limelight at this time, and I was quite pleased to read Lee McClain's version of the answer to this problem in the December 1 issue of the American Nurseryman. Mr. McClain and the members of his committee on trade barriers are being praised by association members in all parts of the country for the work accomplished at the National Plant Board meeting held recently at Chicago.

"I feel sure that we all agree with Lee McClain that through friendship, confidence and coöperation the

nurserymen and the regulatory officials of the various states can together solve this trade barriers problem.

"It seems now that the best means of approach is through the various regions of the A. A. N., where the various executive committee members can work closely with the trade barriers committee in coöperating with the state regulatory officials and the regional plant boards.

"We hope to have this entire arrangement pretty well worked out by the time of our executive committee meeting, the middle of January."

SEASONAL EXEMPTION.

December 5, Col. Philip B. Fleming, administrator of the wage and hour division of the United States Department of Labor, made final the determination on the A. A. N. petition for seasonal exemption of storage and packing house employees of nursery firms, reported in the December 1 issue. The ruling concerns those nurserymen only who purchase substantial quantities of stock for resale. The A. A. N. news-letter for December 5 clarifies the matter in detail in the following paragraphs:

"Storage and packing house employees, who are handling nursery stock, all or substantially all of which was grown by the owner or tenant of the nursery, are fully exempt from both the wage and the hour provisions of the law. This seasonal exemption, which is now final, does not apply to such cases, but covers employees in storing and packing operations in those cases where the amount of purchased stock is substantial.

"The following remarks apply only to those cases, therefore, where the owner or tenant of the nursery purchases substantial amounts of stock

for resale. In such cases storage and packing house employees are subject to the minimum wage provisions of 30 cents per hour. They are allowed to work for twelve hours per day or fifty-six hours per week for a period or periods of not more than fourteen work weeks in any calendar year, before the overtime provisions become operative.

"Exemptions under section 7 (b) (3) apply to industries and not to specific employees in industry. The exemption finds that the storing and packing of nursery stock is a seasonal industry; therefore, all employees engaged in conjunction with storing and packing operations are likewise granted this seasonal exemption. Otherwise, the exemption would merely transfer the bottleneck during such seasons from the packing house to the office. Office employees engaged in accepting and preparing orders or making out the necessary shipping tags, etc., are on the same wage and hour basis as employees in the storage or packing house."

NEW A. A. N. MEMBERS.

The following new members are announced by the Washington office of the American Association of Nurserymen: Peter J. Booy, Mendham, N. J.; Winslow Nurseries, Needham, Mass., and F. Lagomarsino & Sons, Sacramento, Cal.

A Complete Line of **OREGON-GROWN NURSERY STOCK**

Bechtel Crab
Cut-leaf Birch
Chinese Elm
Flowering Cherry
Laburnum Vossii
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BEST WISHES FOR A MERRY CHRISTMAS
AND A HAPPY AND PROSPEROUS NEW YEAR.

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Oregon-grown Quality Guaranteed

OREGON'S BEST SOURCE OF GOOD ROSES

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200 Varieties

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Box 261 Wholesale Only Gresham, Ore.

WASHINGTON NOTES.

The Western Washington Horticultural Association meeting at Olympia was largely attended.

The Washington Horticultural Association held a 2-day meeting at Yakima.

R. C. Bertsch, Bertsch & Co., Auburn, motored to California in a new car. Railroad car shipments of dormant eye field budded roses for greenhouse forcing are being made.

The western Washington experiment station, Puyallup, is carrying on experiments in the growing of pyrethrum for insecticidal purposes. Dr. Breakey states that results the past year are most encouraging, and this promises to be a quick cash crop, suitable to western Washington climate, and two crops a year are possible.

Governor Clarence D. Martin set aside December 5 as a planting day for rhododendrons. Mayor Langlie, Seattle, by proclamation called upon Seattle citizens to plant rhododendrons.

About 400 railroad cars are needed to carry Washington's evergreen Douglas fir trees to every state in the Union. A shipment of 500 bales was sent to the Philippine islands. The steamer Makiki, sailing from Seattle for Hawaii, had her decks piled high with about 25,000 Christmas trees. Ships in Seattle harbor and those sailing celebrate by lashing fir trees to the towering masts.

It is estimated that the Christmas tree business in the state of Washington, Oregon, Idaho and Montana will amount to \$2,000,000 this year, or about twenty per cent of the total industry in the United States.

Mrs. Prescott Malmo, C. P. Malmo Nursery, Seattle, and her mother motored from the east.

J. W. Adams, Richmond Nursery, Richmond Beach, is in Oregon on business.

R. R. Williams, Puget Sound Nursery, Tacoma, is spending a week at Portland.

The Washington State Nurserymen's Association will hold the mid-winter meeting and banquet January 30. W. L. Fulmer.

THE Superior California Nurserymen's Association held its first Christmas party December 13 at the Clunie Clubhouse, Sacramento. A Christmas tree for the children and games were on the program.

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A. Miller & Sons, Inc.

Milton - Since 1878 - Oregon

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OREGON GRAPE

(*Mahonia Aquifolium*)

Seed selected from plants having crinkly, glossy (English Holly) type foliage.

2-year, X, Field-grown liners, sizes 9 to 12 ins. to 18 to 24 ins., bare roots. 4-year, XX, 24 to 30 ins., B&B or B.R.

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CALLERYANA AND BETULAEFOLIA PEAR SEEDLINGS

These are two types of pear seedlings that can be recommended to take the place of Ussuriensis or Japan Pear. They are strong growers, producing a very large percentage of heavy trees, and are especially good in the Southern States where a late growing seedling is essential.

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JUNIPERUS SCOPULORUM

and other forestry seeds

WILDFLOWER SEEDS and NATIVE PLANTS

Write for wholesale trade list.

E. C. MORAN, Medora, N. D.

Coming Events

CONVENTION CALENDAR.

January 2 and 3, Iowa Nurserymen's Association, Des Moines.

January 7 to 9, Western Association of Nurserymen, Muehlebach hotel, Kansas City, Mo.

January 9 and 10, North Carolina Association of Nurserymen, annual meeting and short course, at North Carolina State College, Raleigh.

January 9 and 10, Indiana Association of Nurserymen, Antlers hotel, Indianapolis.

January 9 and 10, Ohio Nurserymen's Association, Deshler-Wallick hotel, Columbus.

January 10, Maryland Nurserymen's Association, College Park.

January 13, Georgia State Nurserymen's Association, Athens.

January 14 to 16, Illinois State Nurserymen's Association, Hotel La Salle, Chicago.

January 17, New York State Nurserymen's Association, Powers hotel, Rochester.

January 20 to 22, annual short course for nurserymen, Ohio State University, Columbus.

January 21 to 23, Michigan Association of Nurserymen and A. A. N. central regional meeting, Hotel Hayes, Jackson.

January 22 and 23, Oklahoma State Nurserymen's Association, Hotel Huckins, Oklahoma City.

January 27, Kentucky State Nurserymen's Association, Kentucky hotel, Louisville.

January 28 to 29, New Jersey Association of Nurserymen and A. A. N. eastern regional meeting, Hotel Hildebricht, Trenton.

February 4 to 6, New England Nurserymen's Association, Hotel Kenmore, Boston.

February 5 and 6, Pennsylvania Nurserymen's Association, Roosevelt hotel, Pittsburgh.

February 6 and 7, Wisconsin Nurserymen's Association, Hotel Schroeder, Milwaukee.

February 10 to 14, short course in nursery management, Rutgers University, New Brunswick, N. J.

February 14, Massachusetts Nurserymen's Association, Hotel Kenmore, Boston.

February 19 and 20, Tennessee State Nurserymen's Association, Hotel Andrew Jackson, Nashville.

February 19 and 20, annual short course, University of Maryland, College Park, Md.

PLAN IOWA MEETING.

The twentieth annual meeting of the Iowa Nurserymen's Association will be held at the Hotel Kirkwood, Des Moines, January 2 and 3. An interesting program is in preparation, according to R. S. Herrick, Des Moines, who is acting as secretary in the place of Harold J. Parnham, who

is occupied on a government project in Missouri this winter.

Richard P. White, A. A. N. executive secretary, will appear on the program January 3.

Subjects on the program, it is stated, will be of great importance to every nurseryman of Iowa, and all are invited to attend, whether members or not.

WESTERN PROGRAM.

The program has just been issued for the fifty-first annual meeting of the Western Association of Nurserymen, to be held at the Hotel Muehlebach, Kansas City, Mo., January 7 to 9.

January 7 will be held a retail nurserymen's meeting at 2 p. m. in the Trianon room of the hotel.

The opening business session is set for 10 a. m., January 8, when President Edwin J. Stark will call the meeting to order. C. C. Smith will make his first report as secretary-treasurer of the association, last year succeeding George W. Holsinger, long incumbent of that office and now vice-president. The latter will make response to an address of welcome by Mayor John B. Gage.

The afternoon session will be opened by a talk on bindweed control by Prof. J. W. Zahnley, Kansas State College.

"The Relationship Between Regional and State Associations and the American Association of Nurserymen" will be discussed by Avery H. Steinmetz, Portland, Ore., A. A. N. president. He will be followed by the executive secretary, Richard P. White, Washington, D. C., who will discuss "Wage and Hour Laws Pertaining to Nurserymen."

In the evening will be held the annual banquet, with entertainment and an interesting talk.

Thursday morning, January 9, two nurserymen will address the convention. "Soil Erosion and Prevention of Same" is the topic of A. E. Weston, Neosho Nurseries, Neosho, Mo. "Trade Outlook for the Coming Year" will be discussed by Joseph Falt, Chase Nursery Co., Chase, Ala.

The morning session will close with committee reports and the election of officers.

Arrangements have been made for

trade exhibits and those interested should write the secretary, C. C. Smith, Sherman Nursery Co., Charles City, Ia.

NORTH CAROLINA DATES.

The winter meeting of the North Carolina Association of Nurserymen has been set for January 9 to 10. It will be held in connection with the nurserymen's short course at North Carolina State College, Raleigh. Headquarters will be at the college Y. M. C. A., states John Tinga, Castle Hayne, secretary.

ON OKLAHOMA PROGRAM.

At the annual convention of the Oklahoma State Nurserymen's Association, January 22 and 23 at Oklahoma City, Elmer T. Peterson, former

LINING-OUT STOCK

	Can be shipped now or later	Per 100
Abelia Grandiflora, 2 1/2-in. pots	\$6.50
Barberry, Jap red leaf, 2-yr., 9 to 12 ins.	3.25
Beauty Bush, Koikwitzia, 2 1/2-in. pots	6.00
Camellia Lutea, yellow branch, 9 to 12 ins.	2.50
Forsythia Fortunel, golden bell, 12 to 18 ins.	2.50
Honeysuckle, Tatarian Pink, 9 to 12 ins.	2.50
Hydrangea P. G., 6 to 12 ins.	3.50
Lilac Marie Legraye, 9 to 12 ins.	9.00
Mountain Ash, European, 18 to 24 ins., nice	3.75
Spiraea Thunbergii, 6 to 9 ins.	3.00
Freibell, dwarf pink, 6 to 9 ins.	3.00
Viburnum Opulus, red berry, 9 to 12 ins.	3.50
Sterile, Am. Snowball, 9 to 12 ins.	3.50
Plicatum, Jap. Snowball, 9 to 12 ins.	4.25

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ELM, American, Moline and Vase, up to 4 ins. All transplants.
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POPLAR, Lombardy, up to 2 ins.
WILLOWS, Thurlow, up to 3 ins.
BARBERRY, Thunbergii, up to 2 to 3 ft.
SPIREA, Vanhouttei, up to 5 to 6 ft.
APPLE, 2-year.
CHERRY, 1-year.
PEACH.

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editor of Better Homes and Gardens and now associate editor of the Daily Oklahoman, will speak. At the banquet to be held on the second day the honor guest will be Mrs. Henry B. Trigg, south central regional vice-president of the National Council of State Garden Club Federations.

MARYLAND DATES SET.

Election of officers will take place at the business meeting of the Maryland Nurserymen's Association to be held January 10, at College Park.

The annual short course will be held at the same place, February 19 and 20.

ILLINOIS PROGRAM.

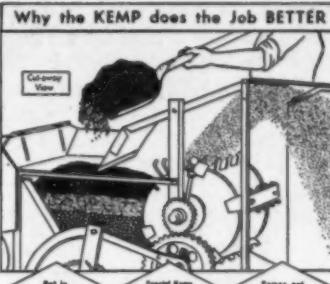
At a meeting of the board of directors of the Illinois State Nurserymen's Association, December 6, the principal features of the program for the annual meeting at Chicago, January 14 to 16, were outlined. The sessions have been scheduled on the afternoon of each day, so that mornings will be free for visiting and business in the lobby.

At the opening session, Tuesday afternoon, January 14, President Ernest Kruse will deliver his official address and Arthur Palmgren will present the treasurer's report. Avery H. Steinmetz, Portland, Ore., president of the American Association of Nurserymen, will address the meeting on "The Nurserymen's National Interests." "The Rules and Regulations of the Federal Social Security Act and the Federal Wage-Hour Law as They Affect Nurserymen" will be the topic of Richard P. White, A. A. N. secretary.

Numerous requests came for this discussion on the two federal laws in response to the notice in the association bulletin sent out by Secretary Miles W. Bryant a month ago, asking members' suggestions on program subjects. The association is fortunate to have Dr. White present to cover the subject, as he is probably the man best posted on it.

Another subject several members suggested for discussion was diseases of shade trees, and that topic will be covered by Dr. L. R. Tehon, of the Illinois State Natural History Survey, who writes regularly on this subject in the American Nurseryman.

Dr. Tehon's address will be made



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January 15, following a talk by F. E. Ertsman, secretary of the Motor Truck Owners' Association of Illinois, on "The Rules and Regulations of the Interstate Commerce Commission and the Illinois State Truck Act as They Affect Private Carriers."

January 16, at 12:15 p. m., will be held the usual luncheon, with entertainment and an outstanding speaker, Dave Colcord, president of the Haskell-Oberlin Co., Marengo, Ill., and editor of *Yourself Magazine*, devoted to sales training, sales development and sales promotion. Mr. Colcord is to talk on "Creative Selling" and comes highly recommended as an outstanding speaker on sales craftsmanship.

Several short panel discussions are planned, covering a number of items of timely interest, details of which will be announced later.

MICHIGAN PROGRAM.

As host to nurserymen of the central region of the A. A. N., the Michigan Association of Nurserymen is planning a program of all-Michigan talent for the gathering, January 21 to 23, at the Hayes hotel, Jackson.

Mayor Daniel J. Hackett will open the program with a welcome to Jackson, Tuesday afternoon, January 21. C. W. Wood, Copemish, Mich., whose articles on perennials are a regular feature of this magazine, will talk about types of perennials which nurserymen should grow. Committee reports and election of officers will follow.

The Michigan A. A. N. chapter will hold a short supper meeting.

January 22 is given over to the A. A. N. program, on which will appear President Avery H. Steinmetz, Secretary Richard P. White and other speakers to be provided by the executive committee member from the region, Benjamin J. Greening.

That evening will be held the banquet, at which Colonel Welch, "the AAA Old Traveler," will give some high lights on interesting garden spots around the world. Norman Beebe, Niles, Mich., has been invited to show more of his films on Africa, which interested members at the summer meeting in 1939.

Thursday morning, January 23, James J. Jakway, of the Michigan State College agriculture board, will

tell of the college's cooperation with nursery interests. C. A. Boyer will talk about the state inspection service. Prof. Paul R. Krone will deal with the subject of colored movies for nurserymen's publicity.

In the afternoon J. Carl Dawson, formerly Missouri state entomologist and now associated with the Dow Chemical Co., Midland, Mich., will speak on methyl bromide fumigation.

Plans are being made for the largest convention the Michigan association has yet held. The committee in charge is composed of Arthur L. Watson and Harold Paul, representing the executive committee, and W. C. Trout and R. Miller, composing the local committee.

NEW JERSEY PROGRAM.

The program of the annual meeting of the New Jersey Association of Nurserymen, to be held at the Hotel Hildebrecht, Trenton, January 28 and 29, in connection with agricultural week, was definitely outlined at a recent meeting of the executive committee.

Tuesday, January 28, the session will be devoted to business affairs, including reports of officers and committees, presentation and discussion of the 1941 advertising campaign and the election of officers. The annual banquet will follow in the evening.

On the second day are scheduled morning and afternoon sessions in a joint meeting with members of the New England, New York, Allied, Pennsylvania and Long Island associations, making up the eastern region of the American Association of Nurserymen. The president and executive secretary of that organization will make addresses, Avery H. Steinmetz, Portland, Ore., and R. P. White, Washington, D. C.

Major Gilmour Clark, New York, prominent landscape architect, will discuss "Modern Parkways."

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A round-table discussion on better landscape practices, led by George Jennings, Ralston, will be conducted by Dr. C. H. Connors, New Brunswick; Frank S. LaBar, Stroudsburg, Pa.; Eugene Mueller, Norristown, Pa.; Peter Cascio, Hartford, Conn., and Major Clark.

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Delphinium Gold Medal Hybrids.	.30	2.00
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ANNOUNCEMENT

Deerfield Foresters, operating the Van Yahres School of Tree Preservation at Cooperstown, New York, have opened a branch at Winter Park, Florida, for training of tree men.

Nurserymen who plan to establish and carry on a tree repair department may now send one of their men to our woods camp during the slow season.

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PATHOLOGISTS TO MEET.

The program of the thirty-second annual meeting of the American Phytopathological Society, to be held December 27 to 31, at Philadelphia, Pa., just issued, includes a symposium on plant quarantines as barriers to interstate trade as part of a joint session with the American Association of Economic Entomologists, Monday morning, December 30, at the Benjamin Franklin hotel.

"The Plant Shippers' View of Quarantines" will be presented by Lee McClain, Knoxville, Tenn., and Richard P. White, Washington, D. C., respectively chairman of the trade barriers' committee and the executive secretary of the American Association of Nurserymen. Preceding them in the symposium will be S. A. Rohwer, Washington, D. C., who will present "Point of View of the Federal Government and Its Co-operators," and D. B. Mackie, Sacramento, Cal., and A. B. Buchholz, Albany, N. Y., who will give their view as state regulatory officials on "Trend of State Quarantines in Relation to Interstate Trade."

The fore part of that session will be devoted to a discussion of plant quarantine and inspection by Avery S. Hoyt, of the bureau of entomology and plant quarantines, Washington, D. C., and a talk by H. H. Porter, of Iowa State College, on "Seed-borne Diseases and Plant Quarantines."

Tuesday morning, December 31, at a joint session with the floriculture section of the American Society for Horticultural Science, at the Hotel Philadelphia, the presiding officer will be Dr. P. P. Pirone, of the New Jersey agricultural experiment station, who will also speak, with B. H. Davis, on "Anthracnose of Camellia." "Fur-

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ther Studies on Factors Affecting the Forcing Performance of Easter Lily Bulbs" will be discussed by Philip Brierley and A. H. Curtis, of the United States horticultural station at Beltsville, Md. "Damping-off Control Through the Use of Sphagnum Moss as a Seedling Medium" will be discussed by Claude Hope, V. T. Stoutemyer and A. W. Close, of the federal station at Glenn Dale, Md.

SAKAGUCHI IN NEW FIRM.

Resigning the managership of the Mobala Nurseries, J. M. Sakaguchi is now associated with the Southland Gardens, Inc., Mobile, Ala., as man-

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ager. This new nursery, which is to grow stock for wholesale, is located on Riviere du Chien road about five miles from Mobile, having 100 acres under cultivation and specializing in azaleas, camellias, bedding plants, gardenias and lining-out stock. Mr. Sakaguchi is well known in the southern states as a propagator and landscape architect.

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ROSE REGISTRATIONS.

The American Rose Society's registration committee has approved applications for registration of the following roses. Notice of these registrations has been sent to rose organizations in foreign countries and trade papers.

If no objections are raised before December 23, 1940, the registration of these names will become permanent as of that date, states R. Marion Hatton, secretary.

Adoration (Ile de France, in Europe). Hybrid tea. Mme. Perraud x unknown seedling x unknown seedling, originated by Jean Guitard, Feyzin, France; introduced by Jackson & Perkins Co., Newark, N. Y., 1940. Plant is described as upright, free-blooming and hardy, with salmon-pink flowers, twenty-five petals. Slight fragrance.

Rose Bamberg. Hybrid tea. A cross of Charles P. Kilham x Margaret McGredy, originated by G. A. Van Rossem, Naarden, The Netherlands; introduced by Jackson & Perkins Co., Newark, N. Y., 1940. Plant is described as upright, free-blooming and hardy. Flowers are salmon, overlaid with bronzy-orange, twenty to twenty-five petals and moderate fragrance.

Neville Chamberlain. Hybrid tea. A cross of Charles P. Kilham x Mrs. Sam McGredy, originated by Louis Lens, Wavre, Belgium; introduced by Jackson & Perkins Co., Newark, N. Y., 1940. Plant is described as upright, free-blooming and hardy. Flowers are salmon, overlaid with bronzy-orange, twenty to twenty-five petals and moderate fragrance.

Adolf Grille. Hybrid panthaea. A cross of *Dance of Joy* x (E. G. Hill x C. Kordes), originated by W. Kordes' Sohne, Sparrieshoop, Germany; introduced by Jackson & Perkins Co., Newark, N. Y., 1940. Plant is described as bushy, upright, free-blooming and hardy. Cupped flowers of bright crimson, thirty to thirty-five petals, moderate fragrance.

Pinocchio. Hybrid panthaea. A cross of *Geheimrat Duisberg*, originated by W. Kordes' Sohne, Sparrieshoop, Germany; introduced by Jackson & Perkins Co., Newark, N. Y., 1940. Plant is described as bushy, free-blooming, with salmon-pink flowers. It has thirty petals, moderate fragrance and blooms in clusters.

F. Ferrer. Large-flowering climber. A cross of *Sainte de Clodius Denys* x *K. of O.*, originated by L. Pabian, San Feliz de Llobregat, Spain; introduced by Jackson & Perkins Co., Newark, N. Y., 1940. Plant is described as climbing, remontant and free-blooming. Flowers lustrous, velvety red, with twelve petals and cinnamon fragrance. Blooms in clusters.

NEW PLANT PATENTS.

The following plant patents were issued recently, according to Rummel, Rummel & Davis, Chicago patent lawyers:

No. 433. Avocado tree. James M. Macpherson, Encinitas, Cal., assignor to himself and Mildred Macpherson. A new and distinct variety of avocado tree characterized as to novelty by its habit of growth, its hardiness to cold, the form, size, color, flavor and oil content of its fruit; the size and weight of the fruit seed, and its ripening period.

No. 434. Carnation. Adolphe F. J. Baur, Indianapolis, Ind., assignor to Baur-Steinkamp & Co. A new and distinct variety of light pink carnation, characterized particularly by its resistance to disease and tolerance toward fungicidal sprays, its ability to root and transplant easily, the ability of its blooms to hold their high quality late into the summer and its prolific production of blooms of large size, symmetrical form, exceptionally good substance, strong clove fragrance and color.

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